

THE KINGSWAY SOCIAL GEOGRAPHIES

edited by ERNEST YOUNG



Book II

THE HERDERS


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BOOK II

THE HERDERS



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THE KINGSWAY SOCIAL GEOGRAPHIES

Edited by ERNEST YOUNG, B.Sc.

FOR SENIORS

BOOK II

THE HERDERS

by

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PREFACE

THIS series of five books, of which this is Book II, is intended for use by pupils from the age of about eleven upwards, and each book provides a course of work that should take about half the school year. The language throughout the five books has been kept as simple as possible.

The complete series covers the geography of the whole world, but it is not concerned with an excessive number of unrelated facts. By means of living races and present conditions it seeks to tell a continuous story of the evolution of culture. The material is, when suitable and available, taken mainly from different parts of the British Empire, but all the more important parts of the world as well as of the Empire are dealt with somewhere in the series.

The exercises are varied in difficulty in order that they may meet the needs of those different grades of ability that are usually to be found in one and the same class.

If geography is worth studying at all, it is not for the accumulation of a mass of information, most of which will certainly be forgotten, and much of which may soon be out of date, but for the acquisition of a body of ideas that may leave some kind of permanent outlook upon life and its problems.

E. Y.

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[G. P. Abraham.]

An English herdsman—a shepherd of the Lake District—bringing home a sheep which has strayed.

PART ONE : NATIVE HERDSMEN

CHAPTER I

THE NEXT STEP

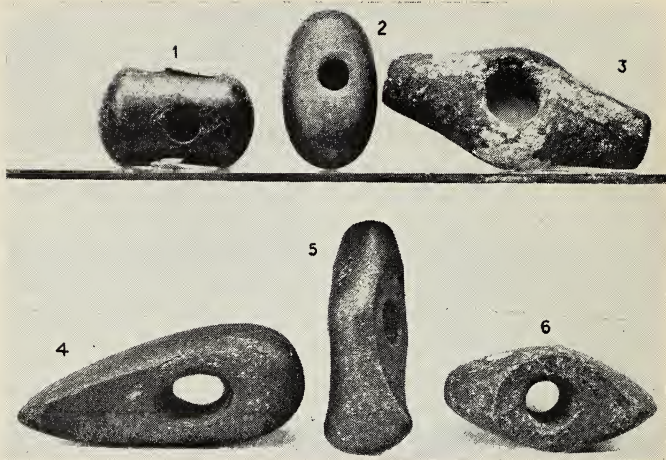
IN Book I of this series we have seen man gathering his food, when and how he could, by collecting roots, fruits, and insects, hunting wild animals, and fishing. At all times most of his time and his energy had to be given to this business of obtaining food, and yet he was never certain of his meals. At all times, too, the tribe had to keep moving to new places as supplies, especially of game, ran out.

No great improvement in man's way of life was possible till he learned to plan for and provide his own food supply, either by breeding animals or by tilling the soil. When he could do these things he had more time to spare, and more energy to give to other kinds of work : many more people could live together and live in settled homes.

The habit of planning and thinking out new ways of obtaining food led to the invention of other things that helped to make life fuller and richer. Because there was now a more regular supply of food and more kinds of food to be eaten, people were stronger in body and children had a better chance to grow up healthy. One interesting thing to be noted here is that men learned to grow crops and to manage herds and flocks before they found out how to use metal ; there were herders and tillers of the soil in the last part of the Stone Age, the New Stone Age, as it is called.

We cannot be certain whether man learned herding or crop-growing first. Perhaps each was learnt, in a different place, about the same time. As we have seen, there are tribes still

THE HERDERS



[W. F. Mansell.]

Weapons used by the New Stone Age people. 1, 2, and 3 are pierced hammers; 4, 5, and 6 are axe heads.

living who have learned neither. New knowledge spreads through the world very slowly even in our times ; it spread far more slowly in those far-off times before machinery and electricity were used, before men could travel quickly or send messages by cable, telephone, and wireless.

As we have been reading in Book I about people who lived on wild animals by hunting them, we may now go on to learn about people who tame animals in order to obtain food.

Great herds of wild cattle used to live on the grassy steppes south of the forests in Europe and Asia. Probably early man hunted these herds by running, as the Indians hunted the bison before they had horses. But cattle do not run as swiftly as bison, so it would be easier for men to keep up with them and

THE NEXT STEP



[London Museum.

New Stone Age people of Britain digging flint from a flint mine to make tools and weapons.

thus to make the herd go in any direction they wished and to learn enough about the habits of the animals to become their masters.

This was very easy in the case of calves. A baby calf, unlike a baby bison, is born with such weak hoofs that, for the first few days, it cannot run. The mother cows, of course, would stay with the calves. Men very likely noticed this, and by using their knowledge gained control over the herds. What is certain is that cattle have been tamed and reared in herds by men for six, or perhaps seven, thousand years, while the bison, though it was found in Siberia as well as in North America, has never been tamed.

THE HERDERS

Some herds were kept to provide meat for food, skins for clothing, and vessels in which to carry liquids, just as many cattle to-day are reared solely for their flesh and skin. But men also soon learned that milk from cows, sheep, goats, and even horses is a good food, and can be kept for some time in the form of butter and cheese.

In lands where sheep and goats roamed wild, men found it even easier to tame these animals than to tame cattle, and learned also to spin and weave the wool from the sheep. The taming of the horse came later, for it is a wilder creature and the baby horse can run as soon as it is born.

Because the herdsmen moved less often and more slowly than the hunters, they could have more property, and it was not long before they had clothes, skins, rugs, tents, skin bags to hold butter, and tools of stone, bone, and wood. To carry all these things they had need of beasts of burden.

The horse, the ass, and, in some regions, the camel were tamed and trained. The horse was specially useful, because its swiftness was a help to the herdsmen when they were looking for new pastures or rounding up stray cattle. The horse was also a fierce animal and was trained to help in battles.

Though the herdsmen had a regular supply of food, with milk, butter, and cheese as well as meat, and though they had learned how to weave clothing, rugs, cloth for their tents and ropes, it was not the herdsmen but the tillers of the soil (see Book III) that made the most advance in human progress.

The life of the herdsmen is not altogether a settled one. Their flocks and herds soon eat up the grass, and must be taken to fresh pastures. The herdsmen, therefore, did not live in houses in villages or towns, but in tents which could be taken down and carried from place to place.

Sometimes the herdsmen had only two camping places, one on a summer pasture and another on a winter pasture. Some-

THE NEXT STEP

times they roamed over wide plains, but stayed in one spot till all the grass and water had been used up. In mountain valleys, even when grass has been dried for winter food, the cattle were, and are, brought down to the valley for shelter in the winter and taken up to the higher pastures to feed in summer.

Even to-day cattle rearing, and especially dairy farming, needs more constant work from man than does tilling the soil or fruit growing. On a dairy farm the cows must be milked twice a day whatever happens. And the milk must either be sold fresh at once or churned into butter or pressed into cheese. There are no days when cattle can be left to look after themselves, so the herdsmen and dairy farmers have less leisure than the cultivators and less time and energy to give to other things.

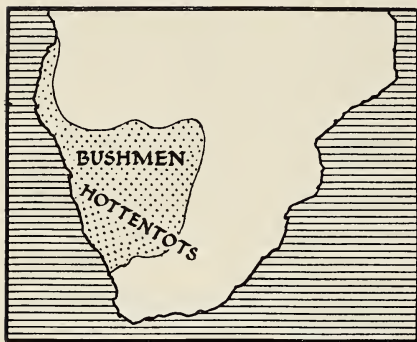
Just as to-day there are farmers who rear cattle for meat, keep a dairy herd, and grow crops all on the same farm, and sometimes go hunting, so in the olden days men who began to keep herds continued to hunt. In this book we shall read about some tribes who hunt as well as herd. Let us begin with the Hottentots.

EXERCISES

1. Name two important things men learnt to do in the New Stone Age.
2. Why is the herdsman's life less settled than that of people who grow crops?
3. In what ways was the herdsman's life easier than that of the hunter?

CHAPTER 2

THE HOTTENTOTS



Map of South Africa, the dotted area showing where the Bushmen and Hottentots live.

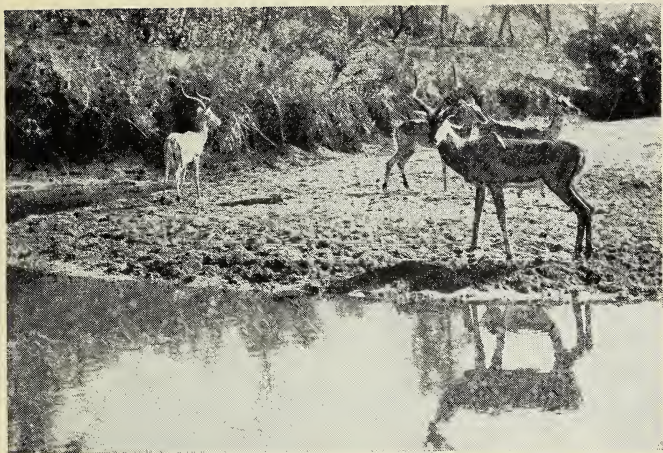
THE Hottentot, like the Bushman (see Book I), lives in South Africa, but not in the same part of it. The Bushman lives in the Kalahari Desert, where it is so dry that little grows. He could not be a farmer or keep cattle like the Hottentot, even if he wished: he has to be a hunter, and, as we have seen,

he lives a very poor and backward kind of life.

The Hottentot lives on the edge of the same desert, where long narrow strips of grass-land push their way into the sands. On the grassland live such wild animals as the lion, zebra, and ostrich, and many kinds of antelope. Where there is a river that has water in it all the year round, one may see the hippopotamus and rhinoceros.

The Hottentot, like the Bushman, is a hunter, but he is not such a good hunter, because he does not spend all his time hunting. He is quite glad to kill an antelope or a rhinoceros in order to obtain meat, but he can do without it. His weapons, like those of the Bushman, are bows, poisoned arrows, spears, and clubs, but they are better than those of the Bushman.

THE HOTTENTOTS



[Courtesy, South African Government.]

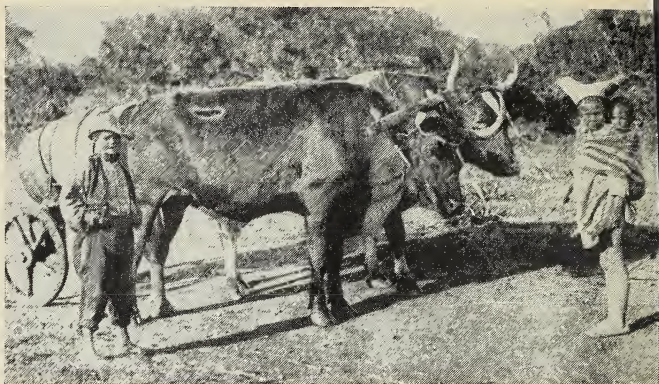
Antelope in the Kruger National Park in South Africa.

The spears had iron tips even before the white man went to Africa. The iron was bought from other tribes. A herder, as we shall see, again and again, can buy more than a hunter because he meets more people and has more to sell.

The Hottentot, though he has plenty of cattle, eats much less meat than the hunter. He rides his cattle, uses them as beasts of burden, and even teaches the bulls to guard the herd, but he does not eat them. He lives chiefly on milk and cheese, and drinks the milk when it is fresh.

As a rule the Hottentot cannot be said to be a very hard worker. During the daytime he can lie and watch the cattle lazily feeding on the grass, and at night he must gather them into a fold to keep them safe from lions and other wild beasts. There is little else to do except to milk the cows, and this is done by the women. But when the herds stray too far or are

THE HERDERS



[E.N.A.]

Hottentot boys, wearing old European clothes, in charge of a water wagon drawn by oxen.

frightened by wild animals and rush wildly across the country, he has to be up and doing.

Because the weather is warm he does not need much clothing. The little that he wears is, as we should expect, made of skins. He has a skin coat, or *kaross*, over his shoulders, and a small piece of skin round the middle of his body. The cloak is worn at all times of the year, but the hairy side is next the skin in winter and outside in the summer. In this cloak the Hottentot also sleeps, and in it he is buried when he dies. The women, too, wear the *kaross*, but they have also skin aprons and caps. On the aprons they hang their ornaments. In these days Hottentots can buy cloth from the white man, but many of them still dress in skins as they have always done.

Because the cattle do not wander far afield, except after all the grass has been eaten, the Hottentot can have a decent kind of home. This is a hut made of a framework of sticks and covered either with mud, skins, or mats made of the reeds that

THE HOTTENTOTS

are found where there is water. When a move has to be made, the reed mats are rolled up, packed on an ox, and taken to the new camping ground. In the middle of the hut is a hole for the fireplace, and on the floor are mats of rushes and bark on which to sit and lie.

There is not very much furniture, but there is more than the Hottentots could carry about without the help of oxen. There are ostrich eggs to hold water, spoons and dishes of tortoise-



[E.N.A.]

Hottentot women outside their hut of sticks covered with mud.

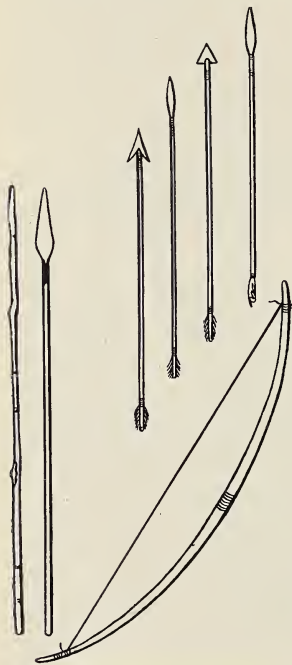
THE HERDERS

shell, hollow bamboos and skins for holding milk and butter, and wooden bowls. There are also a few rough earthenware pots, made of clay, that are dried in the sun and hardened by fire. The Bushmen, like the natives of Australia and the Indians of Tierra del Fuego, make no pots. The Hottentot, who has learned to herd and to use some metal, also makes and uses earthenware.

Although the Hottentot and the Bushman live not so very far from each other they have different habits, because one is a hunter and the other a herdsman, and because the parts of South Africa in which they live are very different. Life is much easier in the grass-land than it is in the desert or in the semi-desert.

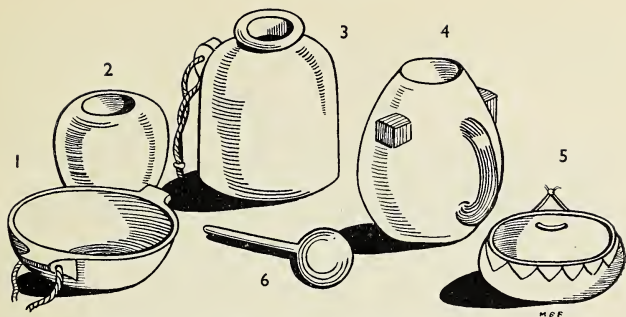
If a Bushman is attacked he can escape by running away, for he has little to carry and little to leave behind. But if a Hottentot is attacked he cannot run away, for he has a hut, furniture and, above all, his cattle. He must stay by them and defend them. He is, therefore, much more of a fighter than the Bushman.

On the other hand, herdsmen are rather kinder to strangers. A hunter does not want to see strangers. They frighten away the game or kill and eat it. But the herdsman is glad to meet other people. They may be able to tell him,



Weapons used by the Hottentots.

THE HOTTENTOTS



Hottentot utensils. 1, wooden bowl; 2, earthenware pot; 3 and 4, wooden jars; 5, wooden bowl; 6, wooden spoon.

perhaps, where rain has fallen and there is more grass, help him to find cattle that have strayed or bolted, or exchange goods with him. Thus the herdsmen are more likely to learn new customs from outsiders than are the huntsmen.

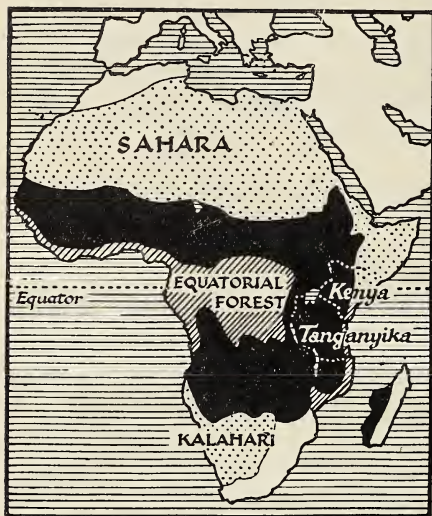
The Hottentot thinks very poorly of any man who wants to eat or smoke all by himself. He likes company, and when a stranger arrives he gives him a great welcome. He sets before him the best that he has and makes a good feast, even though he may, for some time after, go hungry himself.

EXERCISES

1. On an outline map of Africa, print the names *Bushman* and *Hottentot* in the places where these people live.
2. Make a list of animals that live on the edge of the Kalahari Desert. Collect pictures of these and, later on, of the other wild or tame animals mentioned in this book.
3. Point out as many differences as you can between the life of a Bushman and a Hottentot.
4. Describe the appearance of a Hottentot hut. Make a list of the things that one would expect to find inside.
5. Read again in Book I the story of the Bushmen.

CHAPTER 3

THE MASAI



Map of Africa with the savana lands shown in black.

AS this book is about people who rear animals, it will be, mainly, about the great grass-lands on which the animals live. Now the grass-lands of the world are divided into two kinds, the hot and the temperate. The hot grass-land is called *savana*. It has less rain than the hot forest about which we learned in Book I, but more than the hot desert about which we

shall hear later on. For a short time each year, or perhaps twice a year, there may be heavy rain, but the wet season is followed by a dry one when no rain falls at all.

In this kind of country there is not enough moisture for forest, but trees are found, here and there, as in a park. The savana is chiefly a grass-land, but the grass is often taller than a man and grows in patches with bare ground in between.

The biggest savana in the world is in Africa. It lies north

THE MASAI



[E.N.A.]

Giraffes and a Zebra on the savana.

of the Congo Forest, between the forest and the Sahara Desert. It then runs round the eastern side of the forest and bends back again between the forest and the Kalahari Desert to reach the Atlantic Ocean once more. In the east it covers a high tableland, or plateau, on which lie two countries, Kenya and Tanganyika, that form part of the British Empire.

On the grass-land live such grass-eating animals as the antelope, buffalo, and zebra, the giraffe that feeds on the leaves of trees, and the lion that feeds on other animals. Down by the water are the rhinoceros and the hippopotamus. But the chief animals are cattle.

On the savana of East Africa live a number of tribes, one of whom, the Masai, are great rearers of cattle. Though there is

THE HERDERS

plenty of game they rarely hunt any animal except the lion, and then only for the sake of its skin, or to prevent it from attacking the cattle.

As we pointed out in the last chapter, many of the herdsmen are very warlike. Before the English went to East Africa the Masai were great fighters. They first learned how to fight in order to protect their cattle. Later on they fought because their warriors wanted to gain honour for the tribe in war. In fact, they spent a great deal of their time fighting and robbing any other tribe that owned cattle.

Both for hunting the lion and fighting their neighbours, their chief weapon was a spear, and the habit of carrying a heavy spear over the shoulder has given them a kind of stoop as they walk.

Because the Masai live in a land where grass, wood, and cattle are all abundant, they make use of these things in many different ways. They have oval shields of leather, wooden clubs, and wooden spears. They have, however, been able to obtain iron from other tribes, so that they also possess swords, while their spears are armed with a broad iron blade, about two and a half feet long, at one end, and an iron spike, about eighteen inches long, at the other.

The food of the men is usually obtained entirely from the cattle, and consists of nothing else but milk, blood, and meat. For days on end they drink milk. After that they will take a bullock to some lonely place, kill it, drink the warm blood, and then gorge themselves on the beef as long as it lasts. Nothing is grown in fields or on farms, but maize and millet are obtained from other tribes. This grain used to be eaten only by the women and girls and by boys up to the age of fourteen ; now, however, many of the Masai men also eat it.

In these days, when the men must not fight, they spend much of their time talking and idling, but they make the tools and

THE MASAI



[Courtesy, H.M. Eastern African Dependencies.
A Masai warrior with his spear.

weapons and many of the ornaments that are worn by the tribe. The boys look after the herds and drive them to and from the pastures. The women do all the other work, including the building of the hut. The hut, about four feet high, stands round a hole in the ground, and is built of boughs plaited together, and poles. To keep out the blazing sun by day, the cold at night, and the wind at all times, it is covered with grass and plastered over with cow dung and mud. During the dry season this cover is all that is needed, but when the rains come another cover, of hides, is placed over the roof.

The door is low and there are no windows: windows would let in too much sun. Inside, on the floor, are a few iron pots and earthenware jars, mats of grass and cow-hide rugs on

THE HERDERS

which to sit. A heap of stones in the middle is the fireplace. Calves and goats wander in amongst the people; fleas, in thousands, skip about the ground, and millions of flies buzz round in the stifling air.

When the grass has been eaten in any one place there must be a move to fresh pastures. In the dry season the Masai leave the lower ground and build fresh houses on the higher land. When the rainy season sets in they go back to the lower ground. On these journeys the donkeys and the women carry all the things that have to be shifted, and, when the new camping ground is reached, the women build the new hut. Father looks on and talks.



Masai women building huts.

[E.N.A.]

THE MASAI



[Paul W. Hoeffler.

Masai women wearing coiled wire ornaments. The woman in the centre of the picture has her baby on her back.

The houses, as we have said, are round: it is easier to build and thatch a round house than one with corners. They are also arranged in a ring. Outside the circle of huts is a strong fence of thorns, inside which the cattle are gathered at night to keep them safe from wild beasts. The round fence is better than a square one, as it prevents the young animals being pushed into corners and squeezed to death if there is any kind of a rush.

Clothing is chiefly of leather. The women wear a cloak of bullock hide from which the hair has been scraped, and a little leather apron. The cloak usually passes over the left shoulder and under the right arm so as to leave the right arm free. On the back, snugly wrapped in the cloak, the baby is carried.

THE HERDERS

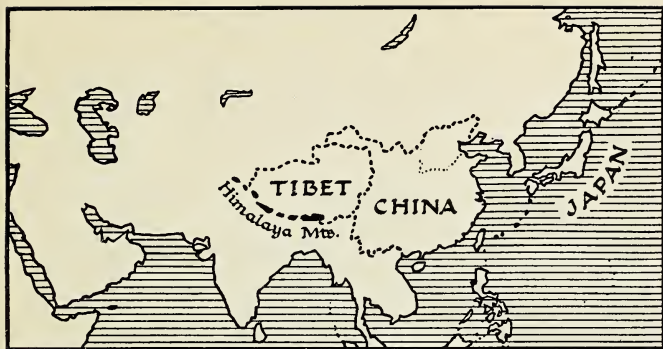
Round the waist is a leather belt. The dress of a man may be a yard or two of cotton cloth, but he has a leather belt and sometimes leather sandals.

We have already learned that all people, whether black, brown, yellow, or white, are fond of ornaments, and will sometimes do very strange things in order to be "in the fashion." The Masai woman shaves her head and decorates herself with wire. She has several pounds of wire coiled on each leg, below the knee, that chafe her skin and sometimes give her cramp. Her arms are enclosed in what look like pipes of wire. Another set of coils of wire is wound round her neck so that her head looks as if it were resting on a plate. All this wire, which may weigh as much as thirty pounds, is never taken off, day or night.

As soon as a boy is old enough he works his hair into a mop of strings, sticks tassels of tiny iron chains through his ears, winds coil after coil of iron wire round his neck, and binds strips of monkey hair round his ankles. He puts on a cloak of goatskin that hangs from his shoulders, and he smears his head and chest with mutton fat and clay. He never washes off this coat of fat and clay, for it keeps him free from the bites of fleas, flies, and other insects. As he grows older, the holes in his ears are made bigger and bigger, till at last they are so large that you could push your fist through them.

EXERCISES

1. On the map of Africa that you used in the last lesson mark the place where the Masai live.
2. Answer the following questions from the map of Africa in your atlas:
 - (a) Name three lakes lying near the Equator.
 - (b) What countries lie to the north, the east, and the south of Lake Victoria?
 - (c) What large river basin lies to the: (1) west, and to the (2) north of the high land around Lake Victoria?
3. Draw a plan of a Masai village, and a picture of a hut.
4. Write an account of the savana. (See some geography book in the library.)



Map showing the position of Tibet, China, and Japan.

CHAPTER 4

HERDING THE YAK IN TIBET

WE have seen that the cattle-rearing Masai move from pasture to pasture with their herds, but that they do not move very often. In other lands, where food may be less abundant, the people who depend on animals may have to move a great deal. They are, like the hunters, *nomads*, that is, wanderers.

There are many tribes of nomads, but they do not all live in the same kind of way, because they do not all live in the same kind of climate, and they do not all rear the same kinds of animals. There are people, like the Hottentot and the Masai, who depend on cattle, others who depend on horses and sheep, and others who depend on the reindeer or the yak.

The people who rear the yak live in Tibet, a country that lies north of the Himalaya mountains. Tibet is the highest plateau in the world: it stands over three miles above the level of the sea. Now, the higher we go the colder it gets, so that, in Tibet, the summers are never hot and the winters are icy

THE HERDERS

cold. Because the plateau is so far from the sea the air is dry, and there is not much rain. Even in winter the skies may have no clouds and the sun may shine with a dazzling light.

Tibet may be thought of as containing three wide strips of land :

1. In the south there is a belt of narrow valleys. Here grain and fruit are grown and the people live a settled life in villages.

2. In the middle there is a belt of pasture-land. There no cultivation of the soil is possible. In winter it is white with snow; in summer it is covered with rather poor grass. Over this lonely upland wander a number of herdsmen, who obtain all they need from their flocks of sheep and herds of yaks.

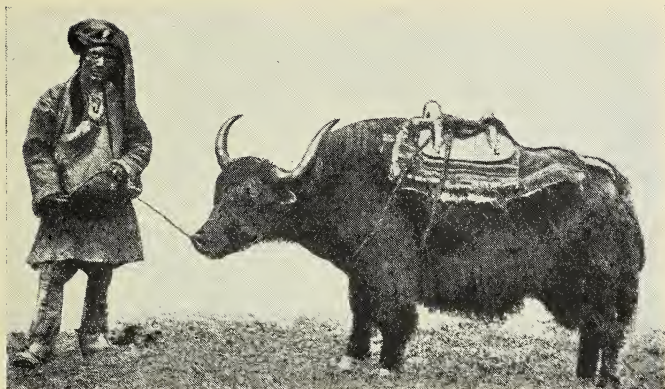
3. In the north is a belt where there are few people and many wild animals, such as asses, yaks, antelopes, and horses. Here the herdsmen, like so many pastoral people, are also hunters, though they do not get their living by hunting.

The chief animal reared on the plateau is the yak. The yak is a kind of ox and about as big as one. To keep it warm it has a thick coat of long, silky, blackish-brown hair. It can live on poor grass and stand the severest cold. It will push its way through snow, ford icy streams, and cross glaciers, and is used as the beast of burden. Without it there would be no people on the plateau.

It supplies the herdsmen with rich milk when alive and with meat when dead. In winter, when pasture is hard to find, some of the older animals will be killed in order to leave more for the rest to eat. When this has to be done, the yak is blind-folded, flowers are hung on its horns, prayers are said for its soul, and lamps are lit so that its spirit shall find its way into the next world. Sheep are eaten, as well as yaks.

These Tibetans grow no crops, but they buy millet and barley, which they roast, from the farmers in the valleys, in exchange for hides, wool, and butter. Brick tea is obtained from Chinese

HERDING THE YAK IN TIBET



[E.N.A.]

A Tibetan herdsman with his yak.

traders, ground to powder in a stone mortar, and boiled with salt and water for several minutes. The mixture is then poured into a bowl of butter and beaten up till it is like a thick cream. This "buttered" tea is the herdsman's chief food, and during the day he will drink many pints of it.

Butter, made from yak's milk, is not only drunk in tea : it is eaten solid; it is rubbed on the face to prevent frost-bite and sunburn from the glare, and smeared on the hair to keep the vermin quiet ; it is burned in lamps and made into images.

Besides food the yak and the sheep give hair and wool when alive and leather when dead for the making of clothes. The herdsman's dress is a loose robe of sheepskin with long sleeves and a high collar. A belt of wool round the waist makes the upper part of the robe stick out like a blouse; the lower part hangs down like a skirt. The robe is very seldom taken off. At night the belt is loosened and the robe becomes a night-

THE HERDERS

gown. It is warm, but as it is never cleaned, it is often full of vermin.

The head may be covered with a turban, a Tam o' Shanter or a Chinese sun hat, but the most common kind of head-dress



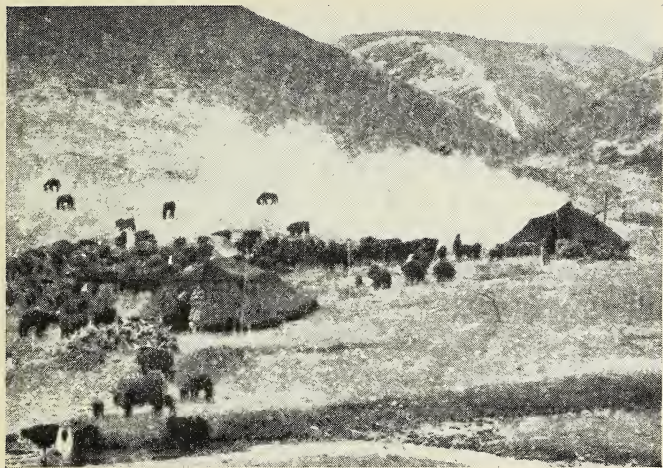
Things used by the Tibetans: 1, a churn; 2, wicker strainer; 3, copper kettle; 4, copper teapot; 5, brick of tea.

is a cap of sheepskin that fits tightly on the head and has flaps that can be tied under the chin to keep the ears from being frozen. Most of the men, however, wear no hat at all. Their own hair, long, matted, and tangled, is almost as good as a hat in any kind of weather. The boots come high up the leg; the soles are of yak skin, and the uppers of wool or of yak hair cloth.

Because the animals soon eat up the small amount of grass, the herdsmen must always be on the move, and so the home and all that it contains must be as light as possible, even though the yak carries everything. The home is a tent. The cloth, of yak hair, is hung over three poles stuck up like the goal-posts on a football field, and held in place by lines and pegs. At the back of the tent a solid wall, of yak dung, is built to keep off the fierce cold wind.

In the middle of the tent is a fireplace of mud and stones. The fuel is not wood, which is hard to find on the plateau, but the dried dung of the yak. The smelly smoke fills the air, covers the walls with greasy soot, and then escapes through a hole at the top. On the floor are bags of grain, saddles, blankets of felt, pots, pans, and teapots, a churn for making butter, a stone for pounding the brick tea, and heaps of mutton bones.

HERDING THE YAK IN TIBET



A Tibetan herdsmen's camp, pitched in a valley among the hills.

[E.N.A.]

During the summer months the Tibetan herdsmen wander about the rough countryside, pitching their tents in places well known to them. But in the autumn they return to their winter quarters, where, in spite of the cold, they continue to live in their grimy tents.

They are not a clean people, and it is not easy to see what is the real colour of their skins. Their faces are tanned dark by the sun and the wind during the day and blackened by the soot of the dung fire in the evening. They very seldom wash either their hands or their faces and they never have baths. When they feel uncomfortable they just sit and scratch.

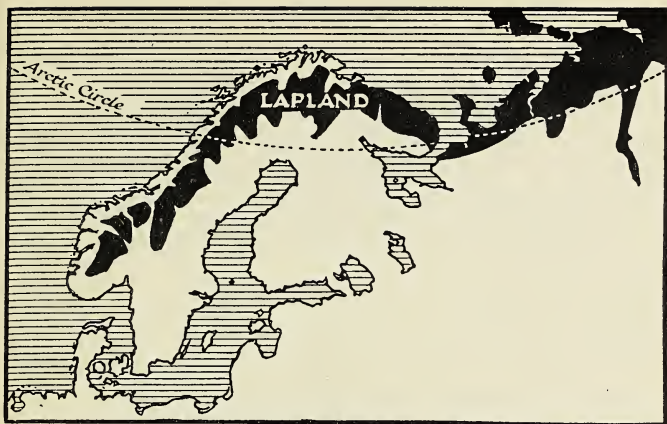
The Tibetan nomads live together in families with the father of the family as the ruler. Everything belongs to him—the flocks and herds, the tent and all that it contains—till his eldest

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son marries. After that the father hands over his power and his property to this married son. The other children then live under the rule of the elder brother and possess nothing of their own. This is a common custom among herdsmen, because the older men know, from experience, where to find the best pastures, and the places likely to have water in times of drought. Such knowledge is of more use to herdsmen than the greater strength of the younger men.

EXERCISES

1. From the map of Asia in your atlas answer the following questions: (*a*) What country lies to the south, and (*b*) to the north-east of Tibet? (*c*) What great range of mountains lies to the south?
2. Explain: nomad, plateau, buttered tea.
3. State why Tibetans know very little about other countries of the world.
4. Write an account of the herders' dwelling in summer time.
5. Of what use are yaks to the Tibetans?
6. Briefly describe the weather of Tibet in summer and in winter.
7. Show how the yak is well suited to living in Tibet.



Map of Northern Europe; the Tundra belt is shown in black.

CHAPTER 5

THE MOUNTAIN LAPPS AND THE REINDEER

IN the north of Europe and Asia, as well as in the north of Canada, there are low, level plains that are not much kinder to man than the high plateau of Tibet. These plains, the *tundra*, have very long, cold winters, during which the ground is covered with snow and the rivers are frozen. During the short, hot summer the ground thaws for twelve or eighteen inches down, grass and flowers spring up in abundance, and mosquitoes bite by the million. The change from one season to the other is so rapid that there is almost no spring and no autumn.

That part of the tundra that lies in Europe is shared between Norway, Sweden, Finland, and Russia. In the north of these countries is a region called Lapland, which, however, includes

THE HERDERS

mountains and forests as well as the low, level plains of the tundra.

The people who live in Lapland, the Lapps, do not all live in the same way. The Sea Lapps dwell by the sea and are fishermen. The River Lapps dwell by the rivers: they are fishermen and herdsman, and also grow a few crops. The Forest Lapps dwell in the forest, but live very much like the River Lapps. The Mountain Lapps wander about, all the year round, with their herds of reindeer. It is with the nomad herdsman, the Mountain Lapps, that this chapter deals.

The reindeer is well fitted to live in the cold north. It has a thick coat of greyish-brown hair to keep it warm in winter, broad hoofs that prevent it sinking in the snow, and it needs no other food than the moss that, in the tundra, grows everywhere. In the winter, when the moss is buried deep in the snow, the reindeer digs a way down to it with its strong legs and broad hoofs. At times one may find a herd of a hundred or more grazing with only their hind parts to be seen. The head and the forelegs are down in the hole that the reindeer has dug in the snow.

The Mountain Lapps live on the reindeer as the Tibetans live on the yak, though the reindeer gives very little milk and, moreover, does not like being milked. It has to be caught with a lasso and tied to a pole, and, while one woman milks it as fast as she can, another has to hold it to prevent it kicking. The milk is very rich, but there is not much of it. It takes several animals to give as much as would fill a pint jug. The milk may be mixed with water and drunk fresh, or turned into cheese, but it is often stored in a bag, made of the dried stomach of a dead reindeer, and may then be frozen solid. The solid milk may be eaten with berries that are found, in the summer, on the tundra, or in coffee that has been bought from Russian

THE MOUNTAIN LAPPS AND THE REINDEER



A herd of reindeer in the Tundra.

[Marine Photo Service.]

traders. With the coffee, blood and dripping are sometimes mixed.

The chief food is reindeer flesh, especially in winter. The meat is cut up and boiled to make a kind of stew, which is served in a wooden bowl. The gravy is drunk by means of a wooden spoon, but the meat is eaten in the fingers.

The reindeer supplies clothes as well as food. Dress is much the same for men and women, boys and girls. It consists of smock, breeches, gloves, boots, and leggings, all of reindeer skin, sewn together with thread of reindeer sinews by means of needles made from reindeer bone. To keep the ears from being frost-bitten the woollen cap has flaps that can be pulled down. To protect the hands and feet, dry, soft grass that has

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A Lapp on skis being drawn along by a reindeer.

[E.N.A.]

been warmed in front of the fire is stuffed into gloves and boots. In very cold weather two smocks may be worn, one with the fur inside, the other with the fur outside.

During the winter the reindeer are in the mountains. While they are grazing they have to be watched both day and night because of the wolves. Sometimes the dogs drive the wolves away; sometimes, if there is only a single wolf, and not a pack of wolves hunting together, the herdsmen chase it on *skis*.

A ski is like a long narrow plank pointed at both ends. The foot is pushed through a loop in the centre. On skis, when the snow is good, a Lapp can travel at fourteen or fifteen miles an hour, that is, faster than the wolf. When he reaches the wolf he kills it by hitting it over the head with a pole. Thousands of wolves are killed in this way every year, though wolves do not usually attack the herd if a man is about. If the reindeer

THE MOUNTAIN LAPPS AND THE REINDEER

has to defend itself, it strikes at the wolf with its horns or, more often, it stands up on its hind legs and boxes with its front feet.

As soon as the days begin to lengthen the reindeer wander down into the valleys where the pasture is better. All the summer they are along the coast where it is colder, and where the mosquitoes do not torment them.

Wherever they may be, on the mountains, in the valley, or on the coast, they soon eat up all the moss in any one place. They then move on of their own free will, and the owners have



A Lapp family and their tent. The woman on the left is carrying the baby in a cradle on her back.

THE HERDERS



Lapps with a reindeer. The man on the right is seated in a pulka. [E.N.A.]

to follow. They seldom stay more than two or three days in one spot, either in winter or summer and, as the moss grows very slowly, they cannot soon return to any place where the animals have grazed.

The home, therefore, has to be a tent that can be carried. It is something like a Red Indian's wigwam. The poles are of birch from the forest; the covering is heavy sacking. It is eight to ten feet high and about fifteen feet wide at the bottom. Small as it is, there always seems to be room enough, not only for the family, but also for the dog and the cooking utensils.

The fire is made on a stone in the centre of the tent and the smoke escapes through a hole at the top. On the floor are birch twigs and branches, covered with reindeer skins, upon which the people sit in the daytime and sleep at night. The

THE MOUNTAIN LAPPS AND THE REINDEER

Lapps, like the Tibetans, do not undress to go to bed. In fact, they may never take off their clothes for years.

The tent and all the rest of the property are carried on the backs of the reindeer in the summer or drawn by them in sledges in the winter. The sledge, or *pulka* as it is called, is shaped like a canoe with a straight stern and a rather round keel. A person who was not used to travelling in such a sledge would fall out of it every few hundred yards, but a Lapp can even go to sleep in one and yet keep his balance.

When travelling over fairly level country the *pulka* is drawn by two or more reindeer running abreast, but when going downhill one is generally harnessed on behind to act as a brake. The harness is made bright with pieces of coloured cloth and reindeer fur. Bells are hung on the collars, and merrily clang and jingle as the animals trot across the silent snow.

EXERCISES

1. On a map of Europe mark the countries mentioned in this chapter. Mark also the oceans to the north and west of Lapland, the White Sea, the Baltic Sea, and the Arctic Circle.
2. Explain how the reindeer is well suited to live within the Arctic.
3. Describe the weather in Lapland in summer and in winter.
4. Explain the uses of the reindeer to the Lapps.
5. Write an account of the dress worn by the Lapps, and show how it is suitable for their kind of life.
6. What is the usual method of travelling in winter in Lapland:
 - (a) For a man who is not carrying any baggage?
 - (b) For a Lapp with heavy loads of goods?

CHAPTER 6

THE HERDSMEN OF THE STEPPES

THE Lapp and Tibetan herdsmen, about whom we have been reading, live in very difficult conditions and in lands far from the modern world. The Hottentot and the Masai live in less difficult surroundings, in lands nearer to the modern world. As we have seen, the latter have learned much from other peoples. There are some other herdsmen who have for a very long time lived in easier surroundings and in regions where they have met peoples who were more civilised than themselves. As a result, their standard of living is much higher than that of any of the herding tribes about whom we have already spoken. Amongst them are the herders of the steppes in Asia.

The steppes are vast, rolling, grassy plains in Russian Central Asia, to the east of the Caspian Sea. Because they are so far from the ocean they are very cold in winter, very hot in summer, and too dry for trees, except in the wide, deep valleys of some of the rivers. They are covered with snow in the winter, but this melts in the spring, and gives enough water for a rich crop of flowers and grass. This grass soon grows to a height of a few feet, but with the coming of the summer sun "the grass withereth and the flower fadeth." The grass, however, ripens very quickly, and sheds large quantities of seed which falls to the ground, ready to spring up again when the next cold winter is over.

On these steppes live the Kirghiz, a people who have yellowish skin, coarse black hair, and flat faces, rather like the Chinese. They have, for ages, been skilful breeders of horses, sheep, cattle, goats and, in some regions, camels and asses.

THE HERDSMEN OF THE STEPPES



Map of Asia, the steppes being shown in black.

At one time they occupied all the steppe lands, even those in the south of European Russia. But as men needed more and more land for the growth of grain, the herdsmen were slowly pushed out of the western part of the steppes.

The Kirghiz herdsmen are very proud of their way of life, and "look down" on people who till the ground, as weaklings. Yet, as the land left free for their flocks and herds has grown smaller, many of them have had to take to a settled life. Much of the steppe was, at one time, thought to be too dry to be used for growing grain, but in our days we have learned how to cultivate grain in lands as dry as these, and the present Russian Government has turned wide stretches of the wild steppe into grain-growing land. By so doing the Soviet has driven the Kirghiz nomads still farther to the east.

THE HERDERS

The flocks and herds supply the Kirghiz with almost all that they need—food, clothes, furniture, and building material.

The chief food, especially in summer, is milk and cheese. Camels, mares, and sheep are milked as well as cows. The milk may be drunk fresh or sour, or put into a goat's skin and kept till it has fermented. A special fermented drink, called *koumiss*, is made from mare's milk. This is good for people who suffer from consumption, and many such people now find benefit from living amongst the Kirghiz and drinking *koumiss*.

Flesh is not eaten quite so much as one would expect. The animals are the wealth of the shepherds, who do not want to destroy too much of it by eating it. But in winter, when the grass has died down and food for the flocks is hard to find, some animals must be eaten. The Kirghiz do not think much of beef, but they are fond of mutton, and when they have a big feast they eat horse flesh, which they think is the nicest meat of all. The chief food animal is the fat-tailed sheep, which gives milk and mutton. The mutton is stewed in the iron pot that is also used when washing the clothes or bathing the baby.

The Kirghiz have no bread, but they make a kind of porridge out of millet or some other grain that they buy, like the iron pot, from a passing trader, or at the great fairs where they sell their cattle.

Clothes are made from wool, camel's hair, and leather. Many people wear clothes more for ornament than use, but on the steppes clothes are really needed to protect the body against summer heat and winter cold. The men have large baggy breeches of leather, shirts of camel's hair, long loose robes of fur, felt, or cotton, caps of sheepskin or felt, and leather belts. Their boots, which come nearly up to the knees, have soles of leather and uppers of felt.

The women dress much like the men, but their robes are a

THE HERDSMEN OF THE STEPPES



[Kurt and Margot Lubinski.]

Kirghiz milking a mare. Notice the clothing worn by the men.

little longer and wider, and instead of hats they wind a strip of white cloth round the head and neck.

The Kirghiz, like other herders, is a nomad, and must lead his flocks and herds where they can get food and water. If the grass is very thick and juicy he may stay several days in one place; where it is short and poor he may have to move every day.

His home is a light round tent called a *yurt*. The walls of the tent are of lattice-work made of rods of the willows that grow by the streams. The rods are tied together with ropes of horsehair. The roof, shaped like a small saucer upside down, is also of rods that meet in a wooden hoop at the top of the saucer, and has a hole through which smoke can escape. The whole of the framework is covered with wide strips of felt that

THE HERDERS



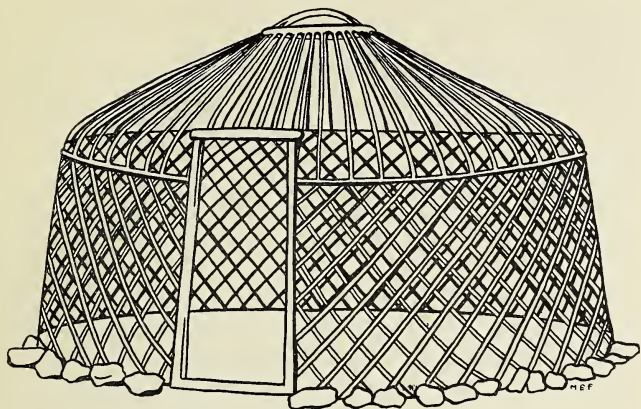
Kirghiz women sitting outside their yurt.

[E.N.A.]

are held in place with cords of hair and wool. The floor is covered with rugs of felt or fine carpets, and opposite the door are boxes that hold the family treasures. The fireplace is in the middle of the tent, and the fuel is the dried dung of the animals. Round the fire the herdsmen sit cross-legged on the ground to have their meals, to talk over the news of the day, and to hear their leader, that is, the father or grandfather, give his orders about work and say when a move must be made to new pastures.

We have seen that, amongst hunters, it is the man who finds the food and the woman who looks after the house. The same is true of the nomads of the steppes. It is the duty of the men to look after the herds. So when a move has to be made, some of the men ride off at dawn to choose the spot for the new camp and to clear out the wells. The horses, because they need the

THE HERDSMEN OF THE STEPPES



The lattice framework of the yurt.

longest grass, follow first. The camels and the cattle go next. Last of all to leave are the sheep and goats, that can eat short grass. When most of the animals have gone the women begin their share of the work. They take down the tents, roll up the felt, and tie the rods into bundles. They gather up the leather bottles and basins, the rugs and mats, the goatskin water bags, and the iron cooking pot, strap everything on the backs of a few camels or oxen, spring on their horses, and follow. When the new camp is reached they pitch the tent and prepare the meals for the tired drovers.

In winter, when the ground is covered with snow, the animals find it hard to obtain food. At that time the camp is in a valley where there is shelter from the wind and a good water supply. The winter home is often a hut of sods. The roof is of trunks of willows covered with layers of willow branches and sods. The earthen walls are draped with rugs to make the place look comfortable, but the Kirghiz is never

THE HERDERS

really happy till he can once more wander over the wide open spaces.

Because the Kirghiz is a nomad he has no pottery; it might so easily be broken. He has dishes of wood and skin, rugs to lie on, a felt wall for his home, and bags of leather. Such things do not break when dropped.

The horse is most useful to the Kirghiz nomad, and life must have been difficult for the steppe herdsman before he tamed it. It helps him to keep his flocks in sight, to round them up, and to seek fresh pastures.

Lastly, because he has so many animals he needs a big family to help him to look after them. Amongst the hunters too many people travelling together would disturb the game, and food is too scarce to feed large groups. Amongst the herders the more people there are the bigger can be the flocks and herds. Even the children can look after the lambs, and the flocks provide plenty of regular food for these larger numbers.

The Kirghiz are not only herders: they are, in a bigger way than the hunters, also traders. Every year caravans of merchants cross the steppes. From them the Kirghiz buy their wooden dishes, grain, iron pots, and tea. The tea is sold in solid *bricks*, as they are called, though they really look more like flat tiles. In the old days no money was used, and even to-day much trade is simply barter.

EXERCISES

1. On a map of Asia mark Tibet, the steppes, the Caspian Sea.
2. Make a list of all the things the Kirghiz obtain from their flocks and herds under the headings—food, clothes, houses.
3. Write a short account of the *steppes*, in winter and summer.
4. Draw a picture of a *yurt*.
5. Why do the Kirghiz move about in summer but not in winter?



A sandstorm sweeping across the desert.

[E.N.A.]

CHAPTER 7

THE WANDERING ARAB AND HIS CAMEL

IN Book I we spoke of the Bushmen hunters who live in a very lowly way in the Kalahari Desert of South Africa. There are other deserts in which the inhabitants are not mere hunters. The Arabs, for instance, who wander about in the Sahara Desert¹ of North Africa, are herdsmen of a very high grade.

The Sahara, the greatest of all the hot deserts, is as big as Europe. It is part of a wide belt of such deserts that stretches away to the east, into Arabia and other parts of Asia. In some places the Sahara is bare rock, in others bare stones, and in others a bare waste of sand and dust which the wind may

¹ See map on page 20.

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Looking down on the palm trees in an oasis.

[E.N.A.]

blow up into hills, or dunes, that are very difficult to cross. During the daytime the sun scorches and blisters; at night the air may be so cold that water may freeze and warm blankets be needed.

Now and then a storm rages, and drives the sand along in thick, dark clouds. At such times the air becomes so hot and dry that lips crack and bleed and skin peels off the face. The sand stings and chokes, and the only way to escape death is to cover the head and sit down with the back to the storm. Rain falls so seldom that there is very little water and very few plants.

Desert plants, in order to live, must have long roots that can go deep down in search of moisture, and some means of stopping the loss of any moisture they may be able to obtain. As water usually escapes from plants by means of the leaves, the leaves of the desert plants are small, or have thick skins, or skins

THE WANDERING ARAB AND HIS CAMEL

covered with wax, or they may be nothing more than spines and prickles. If there is any grass, it is coarse and long, and grows only in tufts. In some ways the hot desert is not so comfortable as the cold; the tundra has water, reindeer moss, and plenty of fish.

Here and there in the hot desert are *oases*. In these water is found, and there may be villages, gardens, palm-trees, and fields. With these places, in this book, we have nothing to do, for the Arabs of the oases are cultivators, not herders: they stay at home and do not wander about.

Outside the oases the only things on which the nomad Arabs can depend for a living are animals (such as sheep, goats, and camels, especially camels) that thrive on poor, dry food.

The camel is to the hot desert what the reindeer is to the cold.



Arabs with their camels in the desert.

[E.N.A.]

THE HERDERS

It is splendidly fitted to the kind of land in which its days are spent. It has *broad feet* that help to keep it from sinking too far in the sand, a *long neck* so that it can feed on any short plant that it finds as it walks along, a *hard mouth* that is not hurt by prickly plants, a *stomach* in which it can store water, a *hump* in which it can store fat, *long eyelashes* to keep out the glare of the sun, a *nose* that it can close in a storm to keep out the sand, and *hard flesh* on its legs and breast so that it can kneel down on sand, rocks, or stones without being hurt.

The food of the Arab is milk, which is drunk sour, not fresh, and cheese. Meat is not often eaten, as the animals must be kept to supply milk and wool. If one dies it is, of course, added to the dinner, and now and then one may be killed for a special feast. When the wandering Arabs visit an oasis, which is not very often, they barter some of their flocks for coffee, dates, and flour. The flour they bake in little round flat cakes over a fire of dry twigs or camel dung.

The Arab needs fewer clothes than the Lapp in order to protect himself from the weather. At the same time he does need protection from the heat of the sun, and his clothes are made from the wool and hair of his own animals. The thick woollen clothes keep out the heat, and are not so hot as one would suppose, because they are worn loosely. They consist of long cloaks for the body and a piece of cloth on the head that hangs down behind to protect the spine from sunstroke and can be pulled across the face. The work of spinning, weaving, and making the clothes is done by the women.

The desert pasture is very poor and does not last very long. The Arab is always moving, but he does not wander about blindly. He knows where there are water-holes, wells, or springs, and where fresh grass is likely to be found.

If there is plenty of rich grass—as there may be for a short while after a heavy shower—the Arab does not need to camp near

THE WANDERING ARAB AND HIS CAMEL



Arabs sitting outside their tents made of hair cloth.

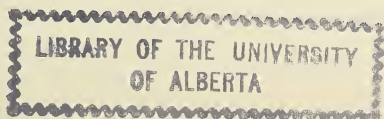
[E.N.A.]

water. Rich grass contains enough moisture to quench the thirst of the beasts, and the Arab is content with milk both as a food and a drink. Water is too scarce to be used often, even for washing the hands, and there is never enough for a bath.

The home is a tent, but because there are camels to carry it, it need not be very light. It is made of black cloth, woven by the women from the hair and wool of the flocks and herds. It is held up by a number of poles and held down by hair ropes fastened to pegs. It is divided into two rooms by a woollen curtain.

The front room is the living-room of the men. The floor is covered with rugs, but there is no furniture. The back room is for the women. In it are stored blankets of camel's hair and sheep's wool, copper kettles, copper coffee pots, wooden bowls, bags of sheepskin or goatskin in which food and water may be carried, stones for crushing grain, and the big wooden saddles that are used by the women when they ride on the camels.

When the pasture has been eaten and a move has to be made, the journey takes place either in the cool of the morning or in



THE HERDERS

the cool of the evening. If it be dark, the way can be found by looking at the stars. Some of the men, on swift Arab horses, ride ahead to look for grass and water and to dig the sand out of the wells and water-holes. The women take down the tents and load the camels, and when everything is ready, all set out in a long line of bleating sheep, long-bearded goats that keep trying to run away, donkeys, and camels; servants walk, women and children ride on camels, and men ride on horses. The *caravan*, as it is called, moves very slowly, for sheep cannot travel quickly, and all the animals graze as they go along.

The Arab is better off than the Lapp in one special way. The Lapp lives in a far-off part of the world with a frozen ocean to the north of him and an almost empty forest to the south. The Arab lives in a land that lies between other lands that are fertile and have many things to sell. These things—ivory, ostrich feathers, spices, gold dust, cotton, palm oil—he can carry across the desert on his camels. So he sometimes becomes a camel driver and a trader instead of a shepherd.

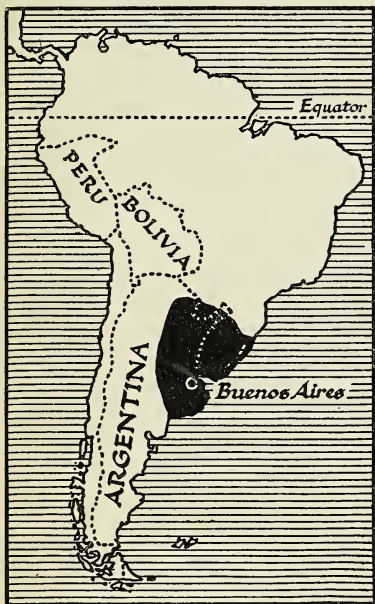
In these days the motor-car is taking the place of the camel as a means of crossing the hot, dry parts of the earth.

EXERCISES

1. On the map of Africa that you used in Chapters 1 and 2 mark the Sahara.
2. On an outline map, showing the main climatic regions of the earth, colour with different colours—all the hot deserts, all the savanas, Tibet, the tundra, the steppe lands.
3. Explain—caravan, sand-dune, oasis.
4. The nomad Arabs find their way by the stars. Explain how to find the north by the stars on a starry night, north of the Equator. Make a sketch.

CHAPTER 8

THE INDIANS OF PERU AND THE LLAMA



Map of South America, showing the position of Peru, Bolivia, and Argentina.

THE last of the more simple herdsmen of whom we shall speak in this book live on a great plateau, or table-land, high up amongst the Andes in South America. Parts of it are three miles above sea-level, and seem, like Tibet, to be on the roof of the world. On this high plateau, in Peru and Bolivia, are a number of Indians who keep sheep, but depend chiefly on the llama and its cousin the alpaca.

The llama and the alpaca are like dwarf camels, but they have no hump. The llama is only a little larger than a goat and the alpaca is smaller still. Each has a soft, long, glossy coat to keep it warm at the great height at which it lives. That of the llama is yellow or black, that of the alpaca brown or black. These animals live on the coarse grass that grows on the plateau.

Like the camel, the llama has thick pads on its feet instead

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of hoofs. It is a sure-footed beast: its small feet enable it to graze and walk about on mountain slopes so steep and rough that the nimblest pony would not be able to find a foothold. It is used as a beast of burden, and it supplies food and clothing. But, also like the camel, it is a bad-tempered beast. If it be laden with anything that weighs more than one hundred pounds, it will refuse to move till the load has been made lighter, and if it does not like you it spits in your face.

The Indians who look after the flocks of llamas, alpacas, sheep, and goats have long, straight, black hair and dark-brown skins, something like those of our gipsies. Because they are always walking up and down the mountain-sides they have very strong legs.

They begin to be useful when they are still quite young. Very soon after they can walk they are sent to watch the flocks, with the help of a dog about as big as an Airedale. They are sometimes armed with a sling with which to throw stones at wild animals and eagles. Little tots of three or four tramp along the mountain paths to gather twigs, from bushes, which they tie into bundles and strap on the back of a llama to be taken home for firewood. Fuel is hard to find, because the land is too high and cold for trees.

Like other herdsmen the Indians of Peru do not kill their animals for food, but eat them if they die. Up on the high plateau the weather is never very warm, so that meat does not go bad quickly, and a dead llama will feed a family for several weeks. Some of the Indians keep guinea-pigs to give them a change of meat, and sometimes, but not often, a good hunter will kill a deer. Game is scarce, but, as we know, almost all herdsmen hunt if there is anything to be hunted.

They also try to obtain vegetable food, either by barter or by growing it, though, as a rule, they are not good farmers. The Indians of Peru barter skins and wool for maize, sugar,

THE INDIANS OF PERU AND THE LLAMA



An Indian loading his llama with a bag of silver ore. [E.N.A.]

and other things with other Indians who live in warmer places lower down the mountains. They also grow potatoes. Hardly any other food crop can be grown at this height because of the cold. It is worth while to remember that this is the place where potatoes were first grown. The Indians had potatoes long before anyone in Europe had ever seen one, and they go on eating potatoes three times a day. Their chief food is porridge made of maize, and mutton stewed with herbs and potatoes. Their chief drink is either water or a kind of beer made from potatoes.

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Indians ploughing a field.

[Ewing Galloway.]

Clothing is supplied by the flocks and herds. The men wear leather sandals, light knee breeches, a shirt, and a cloak. The shirt, like a waistcoat, has no sleeves. When the Indian wants to keep his arms warm he puts on a pair of grey knitted sleeves, just as we pull on our stockings. The cloak, or *poncho*, is a blanket with a hole in the middle through which the head is pushed. The corners hang down to the knees and keep out wind, rain, and cold like a very good overcoat.

The Indian wears a woollen cap that fits tightly to his head : this he seldom takes off, even when he goes to bed, but he covers it with a hat when he goes out. The hat, often flat like a pancake, is of straw or grass.

The women have tight woollen bodices and heavy woollen skirts, and are fond of bright colours—blue, orange, purple. It is said you can tell how rich a woman is by the number of

THE INDIANS OF PERU AND THE LLAMA

her skirts. When she has a new one she puts it on over the others and goes on wearing all she has till the old ones drop off. Instead of a poncho she has a shawl, in which she may, at times, carry a baby. Her hat is like that of the man, and she sometimes has two or three, one on top of the other.

All this clothing, except for the sandals of leather and the hats of straw, is of wool from sheep, llamas, and alpacas. The spinning and the weaving are done by the women; whether they are at home or on the mountains tending flocks or gathering fuel, they are usually busy spinning wool into yarn.

There is not very much pasture on these mountains, but there is enough to last the herds from one year's end to another, and every morning the animals are driven up the mountain-side to feed. The llamas eat the coarse upper leaves of plants,



Indian huts with grass-thatched roofs.

[E.N.A.]

THE HERDERS

the sheep nibble the more tender lower shoots, and the alpacas seek the most tender grass of all. In the evening the herds are brought back again and penned inside a big stone fence.

The home in this case is not a tent, but a hut. It is about ten feet square. It is built of stones, of which there are plenty on the hill-sides, or of rough bricks. The bricks are made by treading coarse grass into very wet mud, and allowing the mixture to harden in the open air. The roof is of grass. In very windy spots stones are put on top to keep the thatch in its place, and sometimes grass ropes are passed over the roof and fastened to pegs in the wall to prevent the roof being blown away.

Because there are no trees and all timber must be brought a long way, hardly a bit of wood is used in either house or furniture. Beds are benches of stone covered with ponchos and sheep-skins. The floor is the bare earth: on it piles of sheep-skins take the place of chairs. There may be niches in the wall for shelves, but most of the property lies about on the ground. Here one may see a mixture of earthenware cooking pots, wooden spoons, a spade, a hoe, some blankets, a few llama skins, and an old-fashioned gun.

EXERCISES

1. On an outline map of South America, mark the Andes, Peru, Bolivia. Name the ocean that lies to the west. Into what great river do the streams flow that run down the eastern side of the Andes?
2. Draw a sketch of a llama, and underneath write brief sentences to show how it is useful to the herdsmen.
3. Write a description of the herdsman's dwelling.
4. It is easier for the Indians of Peru to get maize and sugar and other food-stuffs than it is for the Arabs or the Lapps. Explain this.
5. Write an account of the dress of the llama rearers. Of what material are the garments made?

PART TWO: THE WHITE MAN AS HERDSMAN

CHAPTER 9

LIFE ON A NORTH AMERICAN CATTLE RANCH



Map of North America with the ranch-lands shown in black.

AND now it is time for us to look at those white men who, in our own day, are following the same occupation of rearing animals, but who rear them, on a large scale, as food for other people. They have, of course, better clothes, food, and houses than the people of the New Stone Age or native tribes such as the Hottentots or Masai,

but in many ways their lives are almost as simple.

We shall begin with those who rear cattle, and two things must first of all be made quite clear :

1. Cattle are found on the grass-lands of all countries, both hot and temperate.
2. Near to big towns, almost all the world over, wherever there is grass, large numbers of cattle are kept for the sake of

THE HERDERS



[Courtesy, C.P.R.]

A huge herd of cattle on the plains of North America.

their milk and the butter and cheese that are made from it ; the people who need these things are close at hand, and can receive fresh milk two or three times a day. Some of the grass-lands, however, are hundreds of miles from any town, and even if the cows were milked, it would not be possible to send the milk to market. In such lands cattle are reared mainly for their hides and flesh.

The most important of the cattle-rearing regions are the temperate grass-lands. In this book we have already visited one such grass-land, the steppes, where the Kirghiz live. In Book I we visited another, the *prairies* of North America, where the Red Indians used to live.

The pasture-lands of North America lie on the east side of the Rocky Mountains all the way from Alberta in Canada to Texas in the south of the United States. They include the Great Plains and some of the mountain valleys. The Great

LIFE ON A NORTH AMERICAN CATTLE RANCH

Plains are too dry for crops, and are still mainly covered with grass, though recently much of the less dry plain has been made to grow grain by the new dry-farming methods.

The grass is coarse and grows in tufts, with patches of bare ground in between. In early summer, when the snows have melted and the ground is moist, the grass is green and fresh and at its best. Later on the dry air and the hot sun turn it into hay as it stands. In winter snow covers it with a white mantle.

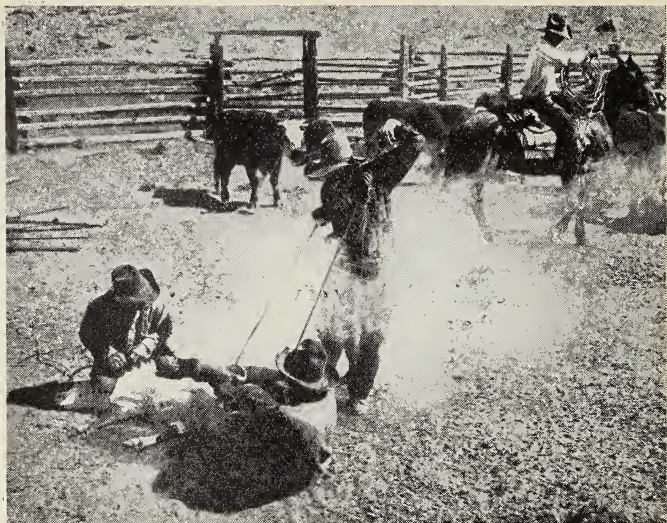
The cattle remain out of doors all the year round, and usually find their own food. In the summer there is plenty of green grass on the ground and plenty of water in the flowing streams. In the autumn the animals eat the dry hay and look for water in the rivers that have not dried up. In the winter they wriggle their noses through the snow to the hay beneath and eat both hay and snow.

There are times when the cattle find it hard to keep alive. There may be a drought in the autumn that dries up all the water-courses or there may be a severe frost in winter that covers all the ground with a thin coating of ice. At such times hundreds of animals may perish unless the farmer has been wise and laid in a stock of winter food.

Because the grass is scattered the cattle need a great deal of ground on which to graze. To keep one animal well fed as much ground is required as would cover seven football pitches. Hence the *ranches*, as they are called, were at one time very large. In these days, however, most of the bigger ranches have been divided up, and many of the cattle farmers grow crops or cut hay in the autumn in order to have plenty of food for their beasts during the winter.

The cattle-men, or cow-boys, live a rather lonely life, but not so lonely as that of the nomads. The few who work on the same ranch may see the same faces every day, but if they care to ride several miles they can visit their friends. And nowhere

THE HERDERS



Branding a calf with its owner's mark.

[Will F. Taylor.]

are they so lonely as they were, say, fifty years ago. They have telephones so that they can talk to distant friends, wireless to bring them lectures, music, and the news of the world, gramophones to play the tunes they like best, motor-cars in which to reach the nearer towns, and even aeroplanes can be used to carry them to places far away.

Then, too, they do not live in tents, but in houses. Their homes are generally bungalows, built of wood, and often placed beside a stream in a wooded valley. The stream supplies water and the trees supply fuel and timber.

When the cattle are allowed to wander far and wide the cowboys spend most of their lives on horseback. The horses are not beautiful to look at, but they are hard workers, can go a

LIFE ON A NORTH AMERICAN CATTLE RANCH



Cattle waiting to be sent away by train.

[Courtesy, C.P.R.]

long way, and need only rough food. They are reared on the ranches, and look after themselves, just like the herds of cattle. Catching and taming them is an exciting and dangerous task.

The cow-boys wear tall riding boots fitted with large spurs and high heels which prevent their feet from jamming in the stirrups. If they are unseated they prefer to be thrown clear rather than to be dragged along by the leg. They have hats with wide brims, something like those worn by Boy Scouts, shirts and riding breeches, and a coloured scarf round the neck.

Twice a year, at least, the wandering cattle must be gathered together to pick out those which are to go to the butcher, or

THE HERDERS

to put a mark on the calves to show to whom they belong. This gathering is called a *round-up* and, on a large ranch, takes several days.

In the spring the round-up is for branding. The cow-boys, mounted on their hardy horses, and carrying tents, cooking utensils, and food, set off to find the herds. They ride in amongst the mob and drive out the calves. The mothers follow, and in this way it is known to whom the calves belong. If the mother has strayed in from another ranch she and her calf are put aside to be sent home again. If the calf belongs to the ranch it is driven inside a fence, where a hot branding iron quickly burns off the hair, and so puts the owner's mark on the shoulder.

In the autumn round-up the cow-boys use the lasso to pick out the fully grown males. With this long rope, which they carry on the saddle, they are very clever. They can gallop at full speed and throw the rope round the horns of an animal to capture it or round the front legs to bring it down to the ground.

But great changes are taking place. The cow-boys may travel over the ranches in motor-cars, even where there are no proper roads, and many of the ranches have fences to keep the cattle from straying. Branding, however, is still the custom, and every ranch has its own mark.

Many thousands of animals are sent by train every year, from the ranches of North America, away to the east of the continent, where they are fattened, before being sold in big cities like Chicago.

EXERCISES

1. On a map showing the main climatic regions, colour the temperate grasslands, using the same colour that you used for the steppes. On it also put a dot and the letter C, to mark the site of Chicago.

2. In what ways do the cow-boys live a different life from the Red Indians who hunted bison over the same ground?¹

¹ See Book I, Chapter 7.



Cattle being rounded up on the pampas.

[Courtesy, Oxo Ltd.]

CHAPTER 10

CATTLE ON THE PAMPAS

IN South America, as in North America, there are many square miles of grass-land suitable for flocks of sheep and herds of cattle. The chief of these, called the *pampas*, are to be found in Argentina,¹ to the west and south-west of Buenos Aires. The word "pampa" is an Indian word, and means "a level space." The pampas are so flat that one can go for miles and miles and never see a hill, and the soil is so fine that it is hard to find anywhere a stone as big as a Brazil nut.

Rain may fall at any time of the year, but, as a rule, the weather is too dry for forests, though wet enough for grass. At times, however, the rains fail, and there may be great loss of life amongst the herds. Much of the grass grows to a height of seven or eight feet, well above the head of a tall man, and has feathery plumes that wave to and fro in the wind.

¹ See map on page 53.

THE HERDERS

Before the white men, chiefly Spanish, went to Argentina, there were no cattle at all in South America. Many of the cattle, however, that were brought by the Spanish just ran wild with no one to own them or look after them. In those days cattle in Argentina were worth very little. Argentina was far from any part of the world where there were many people who wanted the beef, and the only ships were sailing ships that moved very slowly. The wild cattle were hunted. The fat was melted down into tallow and the hides were exported, mostly to Spain. The beef was left to rot on the ground.

Horses were then much more important than cattle, for the horse provided the only means of moving about the country. It also supplied meat which was better liked than beef: the milk of the mares was used instead of that of cows. The horses were well looked after and were strong and well; the cattle wandered where they pleased, grew thin and bony, and lost their beefiness.

The Spanish settlers married the Indian women. Their children, the cow-boys of South America, were called *gauchos*. They were splendid horsemen, and learned to ride almost as soon as they could toddle. When they were a little older they would spend nearly all day in the saddle.

The saddle of wood and leather was wide and covered with sheepskin. It was as comfortable as an arm-chair. The same type of saddle is still used. The stirrups were round pieces of wood covered with leather. The riding whip was a piece of wood about a foot long covered with leather, and had a broad lash, also about a foot long.

For catching the wild cattle the gaucho used the lasso and another weapon called a *bolas*. The *bolas* consisted of three balls, each fastened to the end of a strip of leather two or three feet in length. The other ends were knotted together. When a gaucho was chasing a steer he would take hold of one ball and

CATTLE ON THE PAMPAS



Gauchos making saddles.

[E.N.A.]

whirl the others round his head. Then he would let go, and the three heavy balls would fly forward, spinning as they went. With this weapon the gaucho could always strike the legs of any animal at which he took aim. When the bolas hit the mark the balls would twine round its legs and bring it to the ground.

There are now not many of these old-time cow-boys left, but there are a few who, in far-away parts of the country, still live in much the same way as they did years ago. They have died out elsewhere, because a great deal of the land is now divided up by fences and the cattle are no longer the wild bony beasts they once were. The fences run for miles on end, and men called *boundary-riders* visit them often to keep them in repair.

THE HERDERS



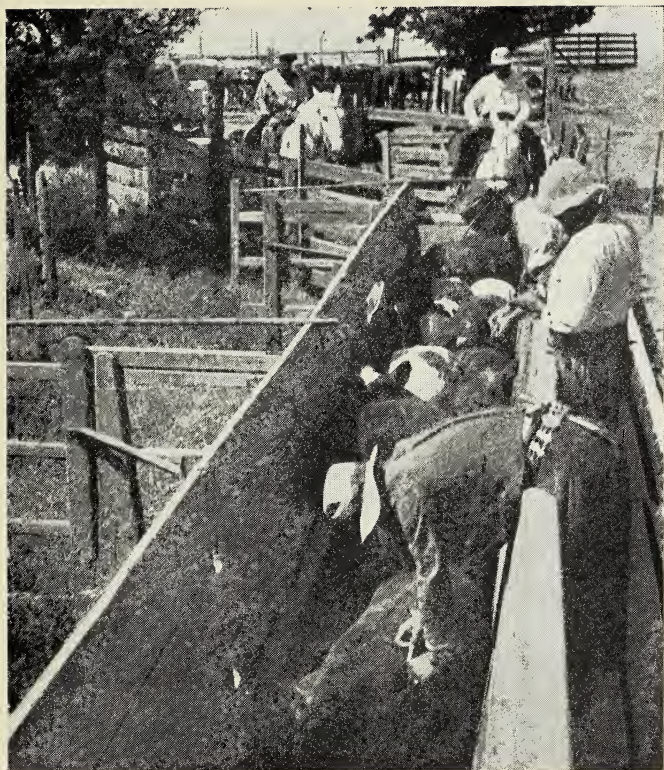
[Courtesy, Oxo, Ltd.]

Modern cow-boys. They both carry lassos, and the one on the right is mounted on a sheepskin saddle.

In these days the men who own the ranches do not wander about. They stay at home and live in houses. The houses, often of brick, are sometimes built round a square, much after the fashion of houses in Spain. They have roofs covered with tiles, green lawns in front, a tennis court of hard earth, and a number of trees to give shade. Around the square are the kitchen, out-buildings, and a shed for the engine that makes the electric light.

Not far away is a windmill that pumps water from a well, a vegetable garden, and orchards of cherry, peach, pear, and apple. There are also sheds roofed with corrugated iron, a coach-house, a room for saddles and harness, store-rooms, and the office of the owner or manager. There are the yards where the animals are dipped in liquids that kill, or keep away, pests, yards where they are penned, yards where they are killed, many water troughs, and a number of small houses for the cow-boys and shepherds.

CATTLE ON THE PAMPAS



[Dorien Leigh.]

Cattle being dipped to keep away pests.

Like most other herding people, the owners of the ranches are kind to friends and strangers, and give a really hearty welcome to all those who go to visit them. From one ranch to the next the only road may be a wide track between the fences.

THE HERDERS

This track is cut up by wheels and hoofs, is as dusty as a desert in the dry weather, and deep in mud after heavy rain. It is full of holes made by animals that live underground, so that if the horseman is not very careful his mount may trip and fall.

Here and there on the pampas may be seen a small town or village with houses of sun-dried brick. Their flat roofs show that the rainfall is not heavy. In the township is a kind of market square, a church, a dozen stores and wine shops, a blacksmith's shop, a wheelwright's shop, and perhaps a railway station with offices and sheds.

On the pampas, as in many other parts of the world, great changes have taken place since man began to use machinery. When men crowded into factory towns in Britain and Western Europe (see Book IV), there was a greater need for meat than could be met by the supplies at home, and it had to be obtained from other lands. One of these lands was Argentina. This region has no severe winter, and so is specially suited to cattle, as they can graze freely all the year round.

At first the meat was exported dried or tinned ; it could not be exported fresh, because it would have gone bad on the way. Then the invention of the steamship made the voyage quicker, and the invention of the refrigerator made it possible to bring the meat across the ocean in a frozen state. This caused the sale of beef from the Argentine to be much greater, and made it worth the while of the cattle breeders to grow special crops on which to fatten the cattle, and to go to other expense in order to breed cattle that would give tender, juicy meat.

To-day Argentina exports more beef than any other country in the world. The cattle are taken by rail to the ports, where they are killed, and then sent away in fast ships that do the journey from Buenos Aires to Europe in three weeks.

A great deal of the beef is still cooked and packed in tins or boiled down to make beef extracts. Nothing is wasted. The

CATTLE ON THE PAMPAS

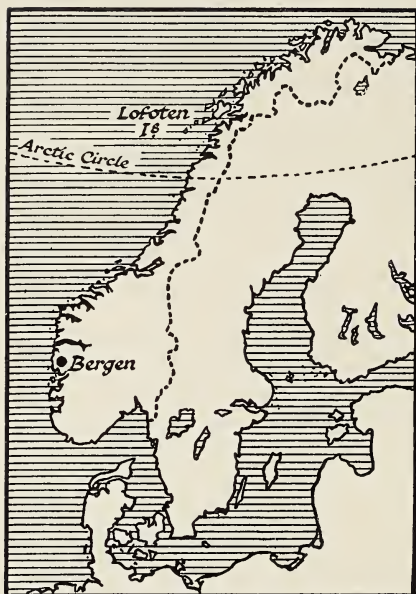
hides are exported to be made into leather ; the hair is shaved off and used in the stuffing of cushions or the making of mortar ; the bones are converted into toothbrush handles, buttons, and artificial manure ; the horns and hoofs are boiled down into glue, the intestines are used for violin strings and sausage skins, and the gut for tennis rackets. Everything is used in one way or another ; even parts that one might think have no value at all are made into manure for the fields.

EXERCISES

1. On a map showing the chief climatic regions of the world mark the pampas and Buenos Aires.
2. Why is this region better suited for cattle rearing than the North American plains?
3. What changes have led to the great increase in cattle rearing in Argentina?

CHAPTER II

HERDING AND FISHING IN NORWAY



Map showing the indented coast of Norway and the position of Bergen.

WE have now seen native herdsmen in many lands living on the milk and flesh of their herds, though, as we have said, they do not often kill their animals for food. Then we have seen white men who also herd cattle, but who kill and sell them, for their hides and flesh, to people who may live in countries thousands of miles away. And we have pointed out that near to places where many people live, cattle are kept either for their milk or for the

butter and cheese that are made from it.

The men who sell milk and make butter and cheese are called dairy farmers, rather than herders. Let us look at the dairy farmers of two or three countries in Europe.

Our first example is taken from Norway, in the North.

HERDING AND FISHING IN NORWAY



A Norwegian fiord.

[Valentine.]

To understand what happens we must begin by examining the country itself. Most of Norway is very mountainous and barren, and parts of it are covered with ice and snow. There are stretches of tundra in the north, where the Lapps live the life of simple herdsmen, vast stretches of forest and, here and there, pasture-land on the sides of the mountains. The summer is short, the winter is long, and there is a good deal of rain all the year round.

The coast of Norway is long and winding, and the sea finds its way inland for many miles. The long, narrow, sea lanes are called *fiords*. The sides of the fiords rise up, like walls, on either hand, and down them water pours in waterfalls that are fed by the melting snows above.

Off the coast there are thousands of islands. Some are just bare rocks; others may have a little grass and a few trees on

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them. The long line of islands acts like a breakwater, and the water between them and the mainland is usually calm. In this calm water there are a great many fish, among which are herring and brisling.

Few people in Norway can live on the tundra or in the forest. Most of them dwell on or near the coast. The land is so mountainous and the coast is so long that railways and roads are few, and when people go from village to village they go by boat. The boat is, to the Norwegian, what the horse is to the Kirghiz or the camel to the Arab.

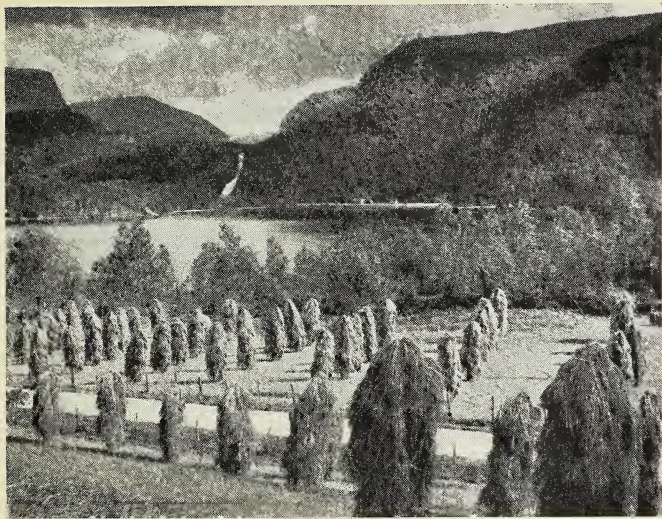
Now notice, first of all, that the fishermen of Norway are nomads of a special kind. They are wanderers, not over a desert or a plain, but over the waters. Though they have houses on shore, where the women and children live, they spend much time at sea, and are often absent from home for a long time. Some go far away to catch seals and whales, but even those who fish nearer home have to follow the fish.

In the summer and part of the autumn they catch herring with nets. From January to March they catch cod, with lines and hooks, off the Lofoten Islands. Much of the fish is eaten by the fisherman and his family ; the Norwegian depends largely on fish for his food. Those that are to be kept for the winter are cleaned, salted, and dried either on the rocks or on poles. They are then taken home and stored.

What is not eaten is sold. The chief fish market is at Bergen. During the season, merchants send boats up and down the coast to buy any fish that have already been caught, take them back to Bergen, salt them, and pack them to be sent away to other lands. In the market, for people who want to buy only a few fish for dinner, there are tanks in which the fish are kept alive. The buyers choose the fish that is wanted, when it is taken out of the water, killed, and handed over.

Bergen is on low land at the foot of the mountains that shelter

HERDING AND FISHING IN NORWAY



[Courtesy, Norwegian State Railways.]

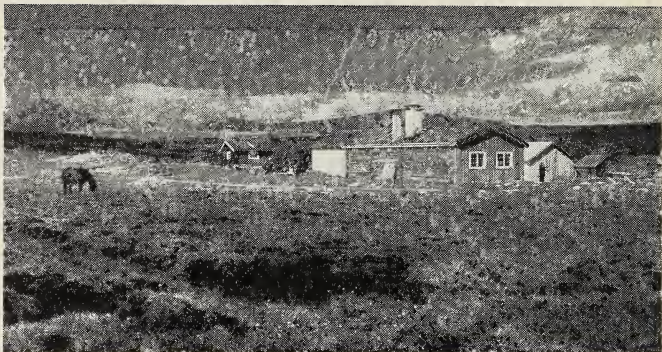
Corn being dried on posts.

the harbour from storms. The harbour is a very large one and deep enough to hold the biggest ships afloat. Many of the houses, as elsewhere in Norway, are of wood, because wood is cheap in a land where there is so much forest. The roofs are steep to shed the rain, for it often rains, and umbrellas are almost as common as hats.

Fishing does not provide food enough to keep the family all the year round, so the Norwegians are farmers as well as fishers. But the men are often away at sea for long periods, and therefore the women must take charge of the farm for most of the year.

Norway is too cold for wheat, but oats, barley, and rye can

THE HERDERS



[Courtesy, Norwegian State Railways.

A farm in low-lying country.

be grown, and there are small fields of grain and vegetables round most of the farms. The chief kinds of vegetables are potatoes for the family and turnips and carrots for the cattle.

During the winter the cattle become thin and weak, partly from lack of fresh food and partly from lack of exercise, because they have to be shut indoors a good part of the time to protect them from cold.

During the summer there is much work to be done. On the fields near the farms hay is cut, by hand, with very small scythes. It cannot be left on the ground to dry, for the ground is damp ; it is usually piled up on wooden fences and posts.

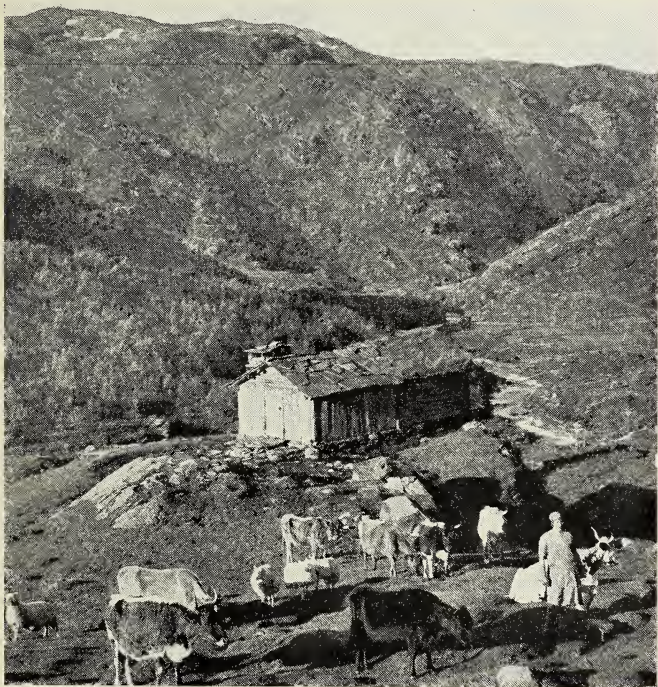
About June, when the snow on the mountains has melted and there is green grass on the high land, some of the men and boys go to the higher levels, cut any grass they can find, tie it in bundles, and bring it home on their backs.

At the same time the cattle are taken, by the older boys and girls, up into the mountains. There they all stay till it is time to return to the winter quarters at the farm. The girls milk

HERDING AND FISHING IN NORWAY

the cows in the morning and the evening, and spend many hours making butter and cheese. The boys drive the cattle to graze on the high pastures, keep an eye on them all day, and bring them back to the cow-sheds in the evening.

The women, down below, besides cutting hay and doing other farm work, have to think of filling the barns and store-houses with food for the winter. They, too, make butter and



[Courtesy, Norwegian State Railways.]
Tending cattle at a mountain farm.

THE HERDERS

cheese ; they also salt fish and meat to make it keep. When they have nothing else to do they spin and weave and make clothes.

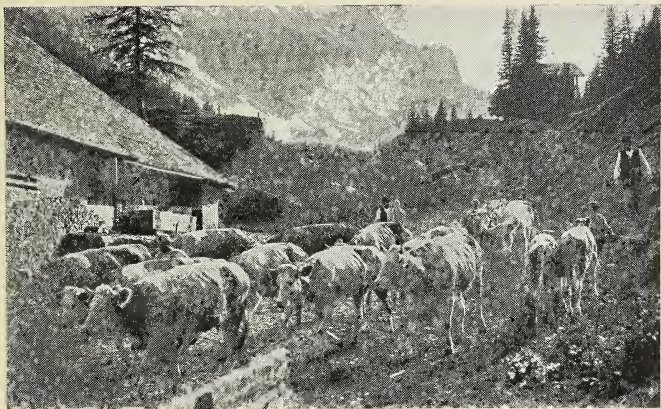
The farmhouse, the barn, the storehouse, and other buildings are of wood because, as we have already said, wood is plentiful and cheap. Wood is also the chief fuel, for Norway has no coal.

In the barn there is a loft where hay, grain, and turnips are stored for the cattle. In the storehouses are bins of oatmeal, barley meal, potatoes, salted meat and fish, and bread for the family. It may seem strange that bread should be stored, but it is not like the bread eaten in England. It is called *flat-bread*, and is made of a mixture of barley meal and oatmeal. It is baked on a flat piece of iron over a wood fire and looks like a large pancake, two or three feet across. It is rather hard and keeps fresh for a long time. Enough is baked in summer to last well into the winter.

The men, when not out fishing, make and repair their boats and nets. They also cut timber and build their own houses with it. As the Norwegian lives on a farm far from towns, he can grind his own grain like a miller, shoe his own horses like a blacksmith, prepare the hides of his own cattle like a tanner, and, with the leather, make harness for his horses and shoes for himself and his family.

EXERCISES

1. On a map of Europe mark and name Norway, Bergen, Lofoten Islands, and the Arctic Circle.
2. Read again, in Book I, the story of the herring fishing in the North Sea and the cod fishing off Newfoundland.
3. Point out as many differences as you can between cattle herding in Argentina and in Norway.
4. Find out all you can about brisling.



[Courtesy, Swiss Federal Railways.]

Cattle on the summer pastures.

CHAPTER 12

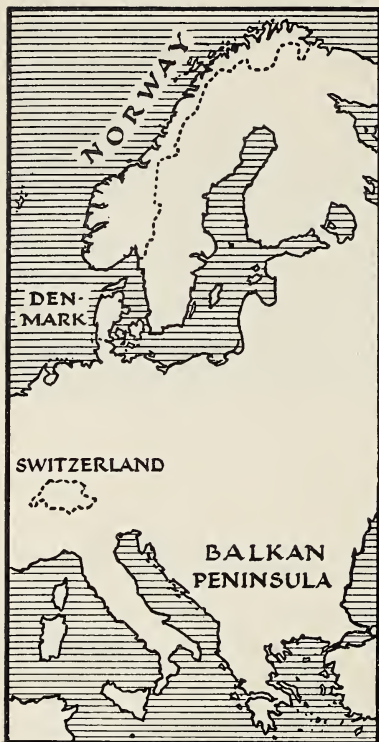
HERDING IN SWITZERLAND

WE usually think of Switzerland as a kind of playground for Europe where, every year, thousands of people go for their holidays. But in this chapter we want to think of it as the home of another European people who keep cattle and are nomads in the sense that they do not live in one settled home all the year round. In some valleys they may have as many as four different houses in which they live at different times of the year. At almost any season, in such a valley, families can be found on the move.

To understand this we must, as in Norway, first see what Switzerland is like.

Switzerland is a very little country with a great many

THE HERDERS



Map showing the position of Switzerland.

mountains that are much higher and steeper than those of Norway. At the bottom, in the valleys, it is possible to till the soil and to grow hay and even wheat and grapes, but as there is not much fertile level land anywhere the crops are rather small.

Higher up there are forests that supply wood for fuel and for building. The steep slopes on which the forests grow have not been cleared for settlement in the way that the forests in the European plains have been: these slopes have poor, thin soil, and are not fitted for cultivation.

Above the forests are ledges covered with snow in winter. On these specially rich juicy snow-fed grass grows in summer.

The ledges are called *alps*, a name that has also been given to the mountains.

Above the alps are the bare sides of the mountains. The tops of the highest are always covered with snow and the upper valleys are filled with streams of ice called *glaciers*.

HERDING IN SWITZERLAND

Wherever there is grass, either above or below the forest, cattle can be kept, but, as in Norway, the winters are cold, and the land is then more or less covered with snow. Hence much of the time in summer is spent in growing food for the cattle to eat in winter when they are not able to find it for themselves and have to be fed and kept in sheds.

Let us follow the Swiss herdsmen as they wander up and down the mountains throughout the year. It is spring time. The snows have begun to melt and the green grass is once more to be seen. Some day, in May, the cows and the goats, thin and wasted like those in Norway, and for the same reason, are taken from the sheds. Flowers are hung round their horns; bells are hung round their necks. Everybody is singing and dancing. Presently a long line of cows, men, women, and children is making its way out of the village.

Before long the women and children say good-bye and go



Cutting hay in a valley.

[Courtesy, Swiss Federal Railways.]

THE HERDERS

home again, but the men, slowly driving the cows, take the steep paths through the forests up to the place where the first green grass is reached. This is called the May pasture.¹ Here the herds remain for a while, and here are huts, made of wood from the trees just below. At night the herdsmen live in the front half of the hut, the cattle in the back.

By the time the grass on the spring pasture has been eaten, that higher up is ready, and the next move is made, to the alp. Here there is no wood, and the home is of stones from the mountain-side. Life on the alp is healthy and pleasant in many ways, though the work is hard, and the men must miss their comfortable homes. The air is pure and the scene is beautiful. The dark forest down below, the white snow above, the green grass and the bright flowers round about, and the blue sky overhead all together make a charming picture.

Every day the cows are milked, both morning and night. As the milk cannot be sent down to the valley it is made into cheese and stored till the autumn. The huge iron pots in which the cheese is made and all the wood for the fires that burn beneath them have to be carried up on the backs of the men.

In September the herds are driven home again, but by this time there is another crop of grass on the May pasture, and a halt is made for a few weeks while this is eaten. Note that three crops of grass are thus obtained from the same piece of land, one on the way up, one on the way down, and another, which is cut and carried home as hay, in between.

In October the last move takes place. The cattle are driven down into the valley and put back in their sheds. The sheds are always very near the house, so that the herdsmen need not have to tramp through deep snow to give the beasts their food.

¹ In some parts of Switzerland there are no "May pastures," and the move from the village is to the "alp."

HERDING IN SWITZERLAND



[Courtesy, Swiss Federal Railways.]

A man, carrying on his back an iron pot for cheese-making, rests on his way to the alp.

While the herds are up in the mountains the people who stay at home in the valleys are, as in Norway, busy making hay while the sun shines. Because there are so many mountains the hay fields are often small and far apart. Every bit of grass must be gathered if there is to be enough hay to last through

THE HERDERS



[Courtesy, Swiss Federal Railways.]

A Swiss house in the valley.

the long winter. By sending the cows to the high pastures for the summer the pastures near the farms are saved, and the hay has not to be carried far after it has been cut. But even then a hunt is made for every little patch of grass that may be found anywhere on the side of the mountain. If it is a long way from home the hay is stored in some dry place until the winter snow falls, when it is brought down on a sledge.

Winter, for the herdsman, is not a very busy time, as no outdoor work can be done. The cows and the goats have to be fed and milked and some grain has to be threshed, but that does not occupy the whole day. Mother cooks, knits, and makes lace; father carves toys, spoons, and other things out of wood and bone.

A Swiss homestead has quite a number of buildings: there is, first of all, the *house*, which is built of wood, but with stone foundations. The wooden roof is kept rather flat because of the

HERDING IN SWITZERLAND

wind, and stones are placed on it to prevent it being blown away.

Another building, also wood, is both a *barn* and a cow-shed. The barn is at the top; the cow-shed is underneath.

A *storehouse*, again of wood, houses grain that has not been threshed and bundles of beans; here, too, is the threshing floor. This building stands on piles. Between the top of the pile and the floor is a big flat stone that prevents rats reaching the grain.

Another *storehouse* is used for hard rye bread, dried meat, cheese, and wine.

All these buildings, and others if there are any, may be, as in Norway, built by the people who own them. The Swiss herdsman is not always thinking about going to a shop to buy things. He and his family can build their own house, grow most of their own food, spin their own yarn, weave their own cloth, make their own clothes, and fashion their own furniture.

EXERCISES

1. On your map of Europe mark Switzerland.
2. Look at your atlas and answer the following:
 - (a) Name the large lakes, and opposite each write the name of the river that runs through it; name one town on its shores.
 - (b) What countries lie to the (1) north-east, (2) north-west, and (3) to the south of Switzerland?
 - (c) Name two of the highest peaks.
3. Explain what you understand by the terms alps, May pastures, and glaciers.
4. Where are the cattle in Switzerland: (a) in summer, and (b) in winter? Which season do you think the cattle like best? Give your reasons.
5. Write an account of the work of the Swiss herders in summer and in winter.
6. Write a description of the way in which the cattle go up the mountain-side in springtime.
7. Why do visitors go to Switzerland: (a) in summer time, and (b) in winter?

CHAPTER 13

THE DAIRY FARMERS OF DENMARK

WE can easily remember which are the great dairy countries of the world if we think of the names by which things are sold in the shops, e.g. Swiss milk, Dutch cheese, Danish butter, and so on. In this chapter we shall look at a dairy farm in Denmark. Denmark¹ is a very level country: the highest hill is only about six hundred feet above the sea. In many ways it is like the eastern part of England, but the soil, on the whole, is not so fertile. In this little country, only about half the size of Scotland, the great occupation is rearing pigs for bacon and cows for the butter that is made from their milk. There are more pigs in Denmark than there are people, and very nearly as many cattle.

It is impossible to export fresh milk. If the milk is to be sold abroad it must be turned into one or other of several things, the chief of which are butter and cheese. In Denmark most of the milk is used in making butter, and the Danish dairy farmer is so skilful that Denmark exports more butter than any other country in the world.

If we study the ways by which such a little country provides other larger countries with butter, we shall see how science helps man to make more and more use of the things that Nature gives him.

During the summer months, from May to October, the cows are kept out in the meadows, where they feed on grass and clover. But they are not allowed to wander where they will about the fields. Each animal is tied by a rope, about three yards long, to a peg driven into the ground, and it

¹ See map on page 80.

THE DAIRY FARMERS OF DENMARK



Tethered cows feeding.

[E.N.A.]

will have to eat all the grass inside a circle as far as the rope can reach, before it is moved on. A dozen or more cows may often be seen feeding in a line with their circles just overlapping. The next day they are all moved, in the same direction, to another row of pegs and eat up another day's ration.

From October till May the animals are kept indoors, and are fed on root crops (mangolds and beetroots), hay, and straw. All these things the farmer grows himself, and the crops take up so much space that only about one-third of the land is used for grazing. The cattle also receive a certain amount of cattle

THE HERDERS

cake made from crushed oil seeds either imported from abroad or made in Denmark.

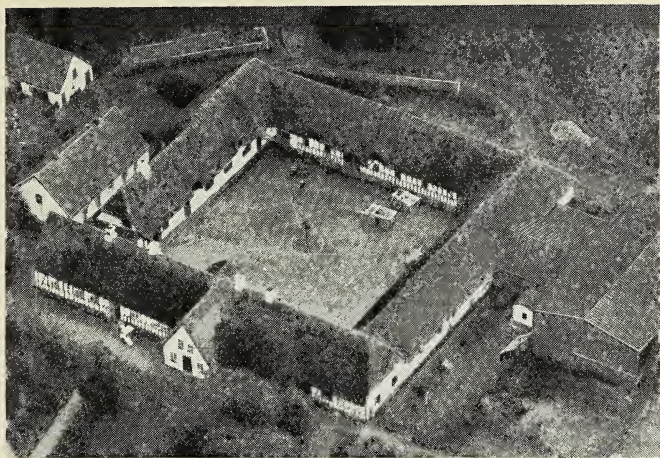
The cow-sheds, where the animals remain during the winter, are long and well-constructed buildings made of brick. Along the centre of the shed are the stalls where the cattle stand in two long lines, the tails of one line towards the tails of the other. Down each side of the shed is a gangway, where the men can move to and fro to attend to the animals. Pure fresh air is driven through the shed, and the concrete floor is often washed, so that the interior is as clean and as comfortable as any cowshed could be.

The Danish dairy farmers have learnt a great deal about cattle by trying first one thing and then another and watching to see what happens. In many farms a chart hangs over each manger. On this chart is written down, each day, how much milk the cow produces and how much butter-fat that milk contains. The food for each cow is carefully measured and an account is kept of the weight of each animal and the amount of milk it gives. Those that give the most milk obtain the most food; when the cow does not give enough milk to pay for its keep it is sent to the butcher.

The Danish farmers have learned so much and make such good use of what they have learned that there are now three times as many cows in the country as there were seventy years ago: each cow gives three times as much milk, and in each pint of milk there is much more of the fat that goes to make butter. Each dairy farmer tries to turn his home-grown crops into as much butter as possible and, later on, into as much beef as possible. By thinking a great deal and making proper plans to improve the breed, and by giving the animals their proper amount of food, he has become the world's chief butter merchant.

On the farm the cows are milked twice a day, but the butter is not made there. The milk is placed in metal cans, each as

THE DAIRY FARMERS OF DENMARK



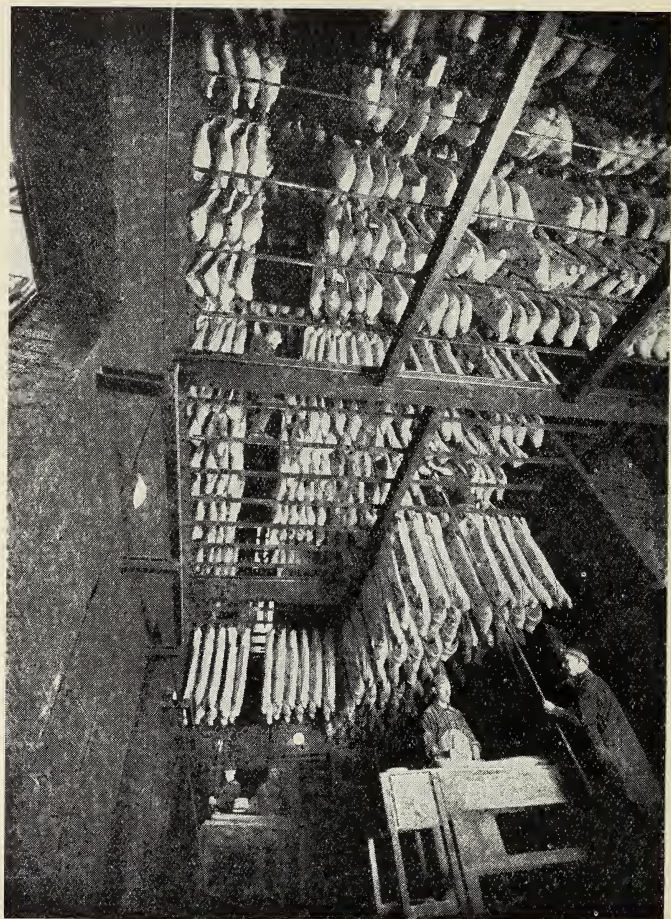
[Courtesy, Danish Bacon Co. Ltd.]

A Danish farm built on the typical square plan.

clean as a new pin, and driven off to a butter factory. Here the milk from a number of different farms is tested to see that it is pure and mixed in a large tank. It is run over hot pipes, heated by steam, to kill any germs it may contain, cooled, and then run through a machine called a *separator*, which separates the cream from the skimmed milk. The separator is really a kind of big can. It is whirled round at the rate of about six thousand times a minute. This causes the heavier milk to flow to the farther side of the vessel, while the lighter cream keeps near the centre. As the separator whizzes round and round the skimmed milk streams out by one pipe and the cream out by another.

The cream, which is the part wanted for butter making, goes into a churn. The churn is a kind of barrel that is made to spin over and over. As it spins the tiny particles of butter fat collect together to form little bits about as big as grains of rice.

THE HERDERS



[Courtesy, Danish Bacon Co., Ltd.]
Danish bacon being smoked in a London smoke-house. The photograph was taken looking up to the roof of the smoke-house.

THE DAIRY FARMERS OF DENMARK

The butter milk is run off and the butter is squeezed to get rid of moisture, after which it is packed in barrels or boxes lined with grease-proof paper and sent by rail to the ship.

In Denmark most of the people eat margarine and not butter, and they use skimmed milk in their homes. There is, however, much more skimmed milk than they can drink. This, together with the butter milk, is given to the pigs.

The life of a pig is rather short. A good sow will have three families of twelve little pigs in a year. When the little pigs are about two months old they are taken from their mother and fed on grain meal, rootcrops, and skimmed milk. By the time they are six months old they are big enough and fat enough to be sent to the bacon factory. There are a great many bacon factories in Denmark, just as there are a great many butter factories. The Danish farmers have learned to co-operate ; each farmer does not try to do everything himself.

The young pigs are taken by motor lorry to the yard outside the factory, where they meet dozens of other pigs exactly like themselves in colour, shape, and size. Inside the factory the unpleasant business is done very quickly and cleanly. The pigs are killed, scoured, scraped, and cut down the middle. They are then hung up in a cooling room for twenty-four hours. On the following day the sides are thoroughly salted and placed in brine for several days. When the curing is complete the brine is run off; after the bacon is dry it is wrapped up in clean linen, sent to the grocer who sells "Danish bacon," and finally some of it reaches your mother's frying-pan.

EXERCISES

1. On a map of Europe mark Denmark and its capital Copenhagen.
2. The chief *butter* countries are Denmark, New Zealand, Australia, the Netherlands, Argentina. On a map of the world write the word BUTTER on each of the countries. The chief *cheese* countries are Canada, the Netherlands, Switzerland, New Zealand, Italy, and France. On your map write the word CHEESE on each of these countries.
3. One of the chief manufactures in Denmark is that of making machines for dairies. Why?

THE SHEPHERDS OF THE LAKE DISTRICT



Map showing the position of the English Lake District.

WE can now leave the cattle, and take a look at the sheep. The sheep, very likely, was one of the first of the wild animals to be tamed by man, and it has been a very good friend to him. It needs less rich pasture than cattle, and can be grazed on slopes impossible for cattle. In some countries it supplies him with milk;

it can be used, as in Tibet, as a pack animal; its wool supplies material for warm clothing; its skin makes a good leather; its meat, mutton, is welcome on the dinner table.

Since the sheep has been tamed it has changed very much. When we see our own fat and fleshy animals slowly eating grass in the fields or pattering along the lanes, we find it hard to remember that their native home was on the sides of mountains, where they sprang from crag to crag, and were so sure-footed that they could climb the steepest slopes. It is easier to remember their origin if one sees them in the Lake District or on the Welsh mountains.

THE SHEPHERDS OF THE LAKE DISTRICT



[G. P. Abraham.

A flock of sheep on the mountain side with the shepherd and his dog. Notice the stone walls and stone hut.

We do not know who brought the first sheep to Great Britain and taught us how to herd them, but we now have about twenty-five million of the finest sheep in the world. They are found in every county, but as only four or five can be kept on a piece of ground as big as a football pitch, it pays a farmer better to grow crops if the ground is fertile. Most of our farmers keep some sheep, but the best land on which to rear them in large numbers is land that would be useless for anything else. Such land is found amongst hills and mountains.

THE HERDERS

In this chapter we shall look at the life of the shepherds in the Lake District of Cumberland and Westmorland.

As a rule sheep are reared on rather dry ground. If they are kept on wet pastures they are likely to get a nasty disease called foot rot. Now, the Lake District is one of the wettest districts in the British Isles and, at first sight, it seems a little strange that there should be so many sheep there. The rain, however, quickly runs down the rocky sides of the mountains and leaves the surface fairly dry.

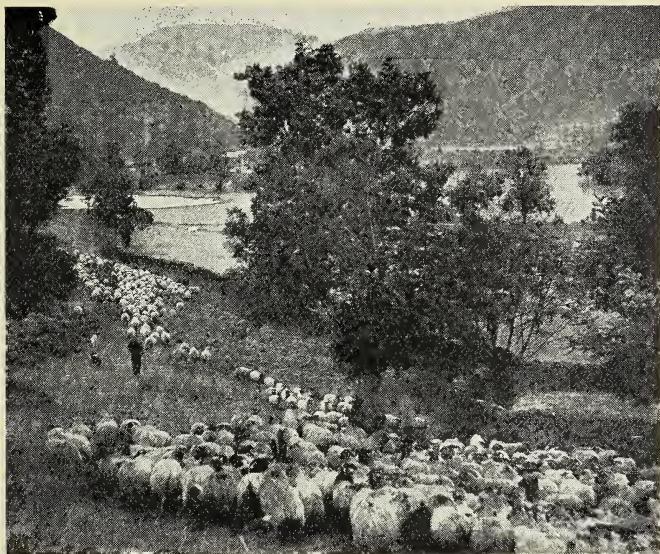
There are about thirty different kinds of sheep in the Lake District, but the best known is the Herdwick. These animals can stay out on the *fell*s, or moors, at all seasons of the year. They can put up with storms of wind, rain, and snow without becoming ill. They have been known to lie buried under snowdrifts for three or four weeks at a time, and still remain alive, though they come out rather thin and weak. The flock-masters, however, generally have a large barn into which the sheep can be driven during very bad weather.

If we follow one of these flocks of sheep throughout the year we shall see that our own shepherds in the Lake District still live a kind of nomadic life, though they do not wander far: the Lake District is too small for anyone to wander about in it for a long distance.

The rams spend all their lives in the mountains. The young females, here called "hogs," are, however, brought down to the lowland pastures around Kendal or Carlisle early in October, and there they remain for their first winter. In April they return to the upland pastures on the fells.

The older females, the ewes, stay, like the rams, in the mountains in the winter, but come down to the valleys in April to give birth to their lambs. When the lambs are about a week old they go, with their mothers, to the bleak fells. There is, we see, quite a lot of movement from place to place.

THE SHEPHERDS OF THE LAKE DISTRICT



Sheep coming down from the mountains for dipping. [J. Hardman.

In the south of the district the country is divided by stone walls that prevent the sheep from straying, but in the north the animals wander where they please, and so must be marked to show to whom they belong.

Now and again there is a kind of "round up" so that the shepherds can pick out their own sheep and take them home again. These "meets," as they are called, are very jolly gatherings: there are sheep-dog trials, pigeon-shooting matches, and plenty to eat and drink.

Where there are many sheep the shepherd is a busy man. In April he is in the valleys with the ewes and the young lambs. At this time he is sometimes at work all day and most of the night.

THE HERDERS

When the lambs go up to the fells he trudges over the moorlands with his dog and his crook, a stick with a big hooked handle to it. He drives away foxes that are always on the lookout to kill and eat the lambs, and scares away carrion crows that perch on the animals' backs and pick out pieces of the fat.

From time to time he "dips" the sheep, that is, he drives them through a deep trough filled with a liquid that helps to keep them clean and free from disease. When the sheep are to be dipped they are driven down a slope into the water. At first they can paddle, but the water soon becomes too deep and they have to swim. The shepherd stands on the side and helps them along with his crook, but he pushes their heads under the liquid, so that all parts of their bodies get a bath.

The sheep do not like being dipped, but dipping is good for them. Even after the dipping they may be attacked by flies that nestle down in the wool and lay their eggs under the skin. A day or two later there will be a nest of maggots and an itching sore. As the shepherd goes his daily rounds, especially in August, he often sees a sheep rubbing its back hard against a rock. He knows what is the matter, hooks the sheep round the neck to prevent it running away, finds the wound, and kills the maggots with some kind of disinfectant.

The busiest time for the shepherd is in July, when the sheep are sheared. The different flock-masters have different days for shearing and keep to the same dates year after year. As one shepherd cannot shear all his flock, his neighbours come to help him. At dawn the shepherd rounds up the flock: this may mean a walk of ten or twelve miles. Before noon twenty or thirty of his neighbours arrive, and are soon busy clipping off the fleeces by hand. A break is made for dinner, and a good farmer gives so good a dinner that the party soon becomes a very jolly one. When the shearing is over the animals are

THE SHEPHERDS OF THE LAKE DISTRICT



A general view of the sheep-shearing. Notice the sheep in the foreground, which bears its owner's mark. [J. Hardman.

THE HERDERS

again marked with the owner's sign, the lambs are dipped, and the flocks are led once more to the pastures on the fells.

On some of the smaller sheep runs the farmer grows crops in the fertile valleys and keeps a few cows. But on the largest estates there are shepherds who do little else but look after sheep. They live in lonely cottages built of stone and roofed with slate from the mountains around them. We may be sure that mutton is the chief food, but, on the daily rounds, it is possible to shoot rabbits, hares, pheasants, and partridges. Water is obtained from a mountain stream and light, sometimes, from candles made of the fat of the sheep.

In the little towns of the Lake District markets are held at which sheep and bales of wool are sold. The sheep are mostly taken away by the butchers to be sold for food; the wool is mostly sent to Yorkshire to be made into woollen cloth.

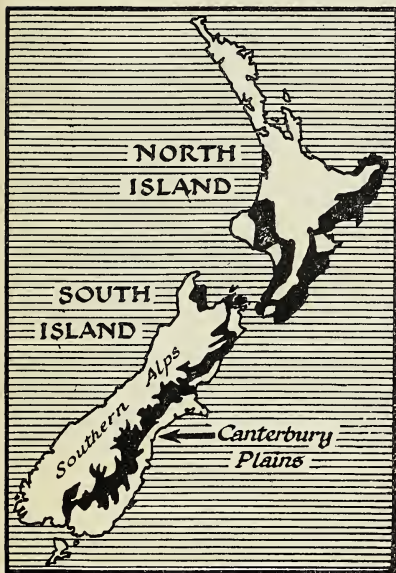
EXERCISES

1. On an outline map of England and Wales mark Cumberland, Westmorland, Keswick, and Carlisle.

2. On an outline map of the British Isles (showing the counties) colour the counties that have more than 1,000 sheep to 1,000 acres—Brecon, Merioneth, Berwick, Roxburgh, Selkirk; those that have 800–1,000 sheep to 1,000 acres—Dumbarton, Peebles, Radnor, Montgomery, Denbigh, Westmorland, Kent, Northumberland, Rutland; 600–700 sheep to 1,000 acres—Cumberland, Lincolnshire (Lindsey), Carnarvon, Haddington, Kinross, Kirkcudbright, Midlothian. What do you notice?

CHAPTER 15

SHEEP IN NEW ZEALAND: MUTTON



Map of New Zealand, showing the position of the Canterbury Plains.

IF we had no more mutton to eat than we produce in the British Isles we should not often eat mutton. Most of this kind of meat comes, like our beef, from over theseas. The country that sends us most mutton is that part of the British Empire called New Zealand.

When Captain Cook first visited New Zealand, in 1769, the only people he found there were some dark-skinned, black-haired people called the Maoris, who were living in a kind of New Stone Age. They had

no metals, but made tools and weapons of stone. With their stone axes they cut down forest trees. With the timber they built villages of strong houses and surrounded them by wooden fences to keep out enemies. They also hollowed out the trunks of trees and made huge canoes in which they could go to sea. Some of these canoes would carry as many as a hundred men.

THE HERDERS



Maoris before their home. Notice the carved decorations. [Courtesy, New Zealand Government.]

They caught birds and fish, but they also turned over the ground with stone-headed hoes and grew crops of sweet potatoes and yams. From the fibres of a kind of flax plant they spun and wove a coarse cloth of which they made clothes, and strong cords with which they made fishing nets that were often more than a hundred yards long.

Like most people they were fond of ornaments and beautiful things. They decorated their clothes with the feathers of birds, made ornaments of stone, carved the pillars of their houses and the prows of their canoes, and tattooed their bodies with the most wonderful patterns of blue lines and whirligigs.

SHEEP IN NEW ZEALAND: MUTTON

In time a number of Englishmen and Scotsmen went to live in New Zealand. They lifted the Maoris out of the New Stone Age and taught them to live like the peoples of Western Europe. To-day there are Maori schools and colleges, Maori farmers, lawyers, doctors, schoolmasters, clergymen, and Members of Parliament.

Before the British settled in New Zealand there were, in that country, neither cattle nor sheep. To-day New Zealand is one of the most important countries in the world for the supply of both butter and mutton.

New Zealand consists of two big islands and some small ones. Each is rather too wet on the west for sheep, but much drier on the east. In South Island, between the New Zealand Alps and the east coast, lie the Canterbury Plains, level, fertile, grassy, and dry. It was on these plains that sheep-rearing began.

North Island was largely covered with forest and bush, and with ferns as tall as trees. Before any use could be made of such land the trees had to be cut down and all the bush burned. Good British grasses were then sown, and the pasture grew so well that now there are more sheep in North Island than there are in South Island, and much of the Canterbury Plains now grows wheat.

The New Zealand sheep-farmer lives a fine out-of-door life in a climate that is, perhaps, the most healthy in the whole world. His house is usually of wood and all on one floor. The roofs are often covered with "tin," that is, corrugated iron. Round the sides is a veranda that gives shade, and in which the family spend a large part of their time in fine weather.

Because the climate of New Zealand is something like that of England, English flowers are found in the gardens, English fruits in the orchards, and English birds in the skies. All these things were taken to New Zealand by people from Britain.

THE HERDERS



[Courtesy, New Zealand Government.]

A road cut through country covered with ferns.

If the sheep farmer lives far from town, his children may have to go some miles to school, but they go on ponies. These they leave to feed in a field outside the school while they learn their lessons. On the way they may have to cross streams where the water is not very shallow, but they climb up on the necks of their ponies and so keep their own feet from getting wet. Children learn to ride when they are only four or five years old, and for the rest of their lives, they are quite at home on horseback.

The sheep wander about, feeding where they will till they are old enough and fat enough to be turned into mutton. In the autumn men from the ports go to the farms to buy the sheep. When they have bought what they need they take the

SHEEP IN NEW ZEALAND: MUTTON

animals away to the port to be examined by an "animal doctor." If he says the sheep are quite healthy they are killed, skinned, and cleaned.

The bodies are then wrapped in muslin bags and taken to the freezing works, where they are frozen as hard as a piece of stone. In the cold chambers of New Zealand as many as seven million sheep can be stored at one time without any fear of the meat going bad.

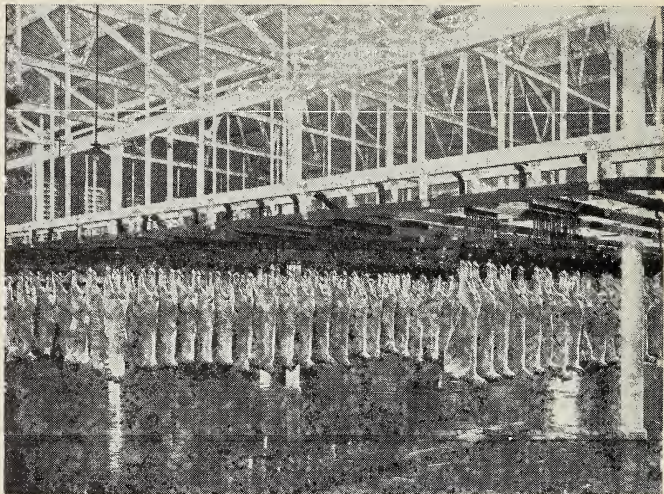
The ships also have cold-storage rooms. They can each carry about 100,000 bodies, but they must go to several different ports before they can collect so many. Some of these ports are in North Island and some in South Island, but New Zealand mutton, from wherever it comes, is sold by our butchers as "prime Canterbury lamb."



A huge flock of sheep being rounded up.

[E.N.A.]

THE HERDERS



Meat in cold storage. [Courtesy, New Zealand Government.]

In early days the sheep of New Zealand were kept only for their wool. No one then thought of sending mutton to England by slow sailing ships that took three months to do the journey. It was not till men had learned to keep meat fresh by freezing it and had invented steamships to carry it more quickly that mutton was exported. To-day New Zealand exports more mutton than any other country in the world.

EXERCISES

1. On an outline map showing New Zealand and Australia, mark North Island and South Island.
2. Find out what you can about Captain Cook's voyage to New Zealand and Australia.
3. What other country have you read about, besides New Zealand, that exports frozen meat?



Map of Australia and New Zealand. The sheep-rearing areas are shown in black.

CHAPTER 16

SHEEP IN AUSTRALIA: WOOL

IN most countries, except the hottest, men need clothes. All the herding peoples make clothes, at home, from the hides, hair, or wool of their animals. The white man, as a rule, does not make his own clothes, but rears large numbers of animals and sells their hides, hair, and wool to other people, who make clothes in factories. One of the commonest things of which clothes are made is wool, and the chief wool country in the world is Australia, another part of the British Empire.

The natives of Australia, about whom we learned in Book I, were always hunters, and remained in the Stone Age. They could not become herders, because they had no cattle, sheep, horses, or pigs to herd; poultry, too, were unknown. It was the English who took all these kinds of animals to Australia. They

THE HERDERS

had, in fact, to take with them almost everything they wanted except grass and timber. In time they grew wheat, barley,

fruit, and potatoes in the cooler parts of Australia, and maize, cotton, and sugar where it was warmer.



[Courtesy, Australian Government.]

A Merino sheep, bred for its wool.

The special kind of sheep reared in Australia is the merino, whose flesh is not very nice to eat, but whose wool is the best in the world. The first merino sheep came from Spain, most of which is a rather dry land. Now Australia has also a great deal of dry land suitable for sheep. The east coast is fairly wet, but behind the coast is the Great Dividing Range of

mountains that shut out most of the rain from the interior. Behind the mountains, in the vast plains around the river Murray and its tributaries, the Darling and the Murrumbidgee, there are many thousands of square miles of country in which sheep can be reared.

If well-fed English sheep were taken to these rather dry pastures they would, for most of the year, be quite unhappy. In the damper season the ground is well covered with grass, but during the dry weather it looks so bare that you might almost think the sheep were eating nothing but sand and dust. At such time they nibble the dried-up leaves and twigs of a

SHEEP IN AUSTRALIA: WOOL

plant called salt bush. This suits them so well that they give better wool than the merino sheep that live either in Spain or anywhere else.

The earliest English settlers who went beyond the mountains rode out into what was then a quite unknown land, and took as much of it as they pleased. The first man to drive his sheep on to the land owned it. Some of the stations, as the sheep runs were called, were larger than an English county. Since then most of these big estates have been broken up, but even now an ordinary sheep station may be many times larger than the largest English farm. It is divided, by wire fencing, into "paddocks," or fields, each of which may contain as many as fifteen or twenty square miles. The fences keep in the sheep



[Courtesy, Australian Government.]

A flock of sheep among salt bush pasture.

THE HERDERS

and keep out the rabbits. The rabbit, introduced into Australia from Europe, is a pest: it eats the grass that should feed the sheep.

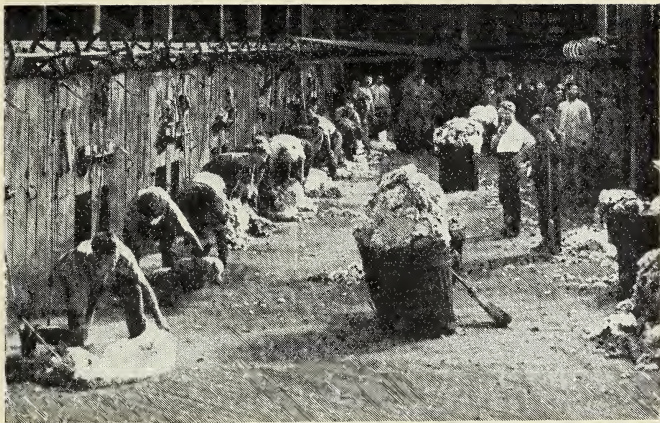
Life on a large station is hard and lonely, but healthy and pleasant in some ways. The homestead is generally near the centre, and contains a large number of buildings. The most lonely men on the station are the boundary riders. Each of them lives by himself in a small wooden hut miles away from anyone else. His job is to ride to and fro along about eight miles of fence, and to see that it is kept in order. If he finds any of it broken he has to mend it. Every evening he speaks to the "boss," over the telephone, and tells him the latest news, if any, about his part of the station.

The sheep are left out all through the year, but now and again they are rounded up to mark the young lambs, to see if the sheep are free from disease, to dip, or to shear them. To collect a thousand or more animals that are scattered over one of these vast runs is no easy task. This work, like most of the work on the station, is done on horseback. Without his horse the Australian herdsman would to-day, like the Kirghiz shepherd, be helpless.

The stockmen form a line half-way across the field and work round the centre like the spoke of a wheel. As they move they crack their long stock whips and make a noise that disturbs the sheep so that they are more easily seen. A dog works with each stockman and herds the sheep together. When about a hundred have been collected they are driven to the centre of the paddock. When the whole area has been cleared, which may take one or two days, the animals are driven into a fenced yard in one corner of the field.

The busiest time on an Australian station comes in our winter, but in the Australian summer, when the sheep have to be sheared. Shearing, in Australia, is a very different thing

SHEEP IN AUSTRALIA: WOOL



[Courtesy, Australian National Travel Association.]
At work in a sheep-shearing shed.

from what it is in the Lake District of England. It is done by gangs of men who travel about the country from one station to another.

On a big station a long shed is set apart for the shearing. For eleven months it is occupied by spiders and cobwebs, but about Christmas it is the home of a great deal of hard work. Down the centre is a passage, on either side of which are a number of small pens. In front of each pen is a machine, by means of which the sheep are sheared: in Australia the fleece is removed, not by hand, but by a machine. The clippers are something like those some barbers use when cutting our hair.

Work begins soon after dawn. The "penners-up" drive the first batch of sheep along the gangway and send two sheep into each pen. The shearer enters the pen, chooses a sheep, and drags it out backwards to his machine. He grips the animal between his knees and runs the clippers under the wool so

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[Courtesy, Australian National Travel Association.
Camels carrying bales of wool.

quickly that in a very few minutes the sheep is shorn and the fleece is lying on the floor. As soon as the one that has lost its coat has run through a side door out into the yard, another merino is driven into the pen, for the pens must be constantly supplied with sheep as long as the shearers are at work.

To each pen there is a helper called a "rouse-about." He collects the fleeces and takes them to one end of the shed, where they are examined and sorted. The fleeces are packed in bales, and the last thing the sheep farmer sees of his wool is when the bales are loaded on trucks or motor lorries, or perhaps on teams of donkeys or camels and taken to a port where they are shipped for other lands.

EXERCISES

1. On the map you used for the last lesson mark all the names mentioned in this chapter.
2. Write a short account of sheep and their uses.
3. Why are dry grass-lands better for sheep raising than for cattle raising?
4. Name the seas and oceans crossed in carrying wool from Australia to England.
5. Read again, in Book I, the story of the Australian natives.

CHAPTER 17

PIGS IN THE BALKANS



Map showing the position of Yugoslavia in the Balkan Peninsula.

CATTLE and sheep are reared for both food and clothes; the pig was tamed solely for food, though its skin can be made into leather and its bristles into brushes. Pigs are not so useful as either cattle or sheep, but the female has more young ones at a time, and pigs can be partly fed with some of the rubbish that is leftover after man has prepared his own meals.

Pigs are reared in many countries. The one chosen for study in this chapter is Serbia, a small country in the north-west of the Balkan Peninsula. It forms part of the kingdom of Yugoslavia. Most of Serbia is hilly or mountainous: only a small area, in the north, is at all level. Many square miles are covered with some of the finest oak and beech forests in the world. The fruits of these trees, acorns and beech nuts, are good food for pigs, but do not make them very fat. In the winter, however, when acorns and beech nuts are hard to find, the pigs are kept at home and fed on maize.

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Serbian pigs, with long legs and woolly coats.

The Serbian pigs are not quite like those that are found in England. They have long legs, an arched back that has stiff rows of dirty yellow bristles, and are chocolate-brown in colour. They are not fat and lazy like English pigs. They are thin, not much fatter than a dog, and they can run almost as fast.

In a Serbian family the mother is always busy about the house and father is often busy in the fields. Hence the pigs are put in the care of tiny children, who are not yet old enough to go to school, that is, under seven years of age. Early every summer morning they can be seen driving the pigs and goats along the country tracks. Slung over their little shoulders is a knapsack that holds their food for the day.

They trot along behind the animals, swishing long canes from side to side or, perhaps, playing tunes on a flute. As the goats tend to run off by themselves they have little bells hung

PIGS IN THE BALKANS

round their necks that jingle as the happy party of children and pattering pigs makes its way to the forest.

As soon as the pigs reach the forest they nose about for beech nuts and acorns and grub up the roots of some of the smaller bushes. All day long they eat and eat, squealing, grunting, and snorting, as is the way of pigs everywhere. The children, meanwhile, play games amongst the trees, sit quietly on the ground knitting, or sleep in the cool shade. In the evening they gather the little herd together and drive it back to the clean pig-sties near the farm-house.

The Serbian peasant produces nearly everything he needs for himself. From his fields he obtains maize, wheat, and barley, pumpkins and other vegetables for food, tobacco, hemp,



A Serbian farmer ploughing with oxen.

[E.N.A.]

THE HERDERS



A peasant's home.

[E.N.A.]

and flax. From his orchards he obtains plums, cherries, apples, and other fruit, and from his vineyards grapes that are big and purple in the autumn. The grapes give him wine and the plums give him brandy or, when dried, prunes.

Though the Serbians have so many pigs the poor do not often eat meat except on feast days. Their food consists chiefly of onions, soup, some clotted cream, cheese made from goats' milk, and a kind of porridge made of maize.

From the forest wood is obtained for fuel and for building. The house, which is usually one storey high, has whitewashed walls and a roof, usually thickly thatched with the stalks of the maize plant, though at times it is covered with tiles. Round it runs a veranda to give shade during the very warm days of summer. Each house contains one room to live in and one or more bedrooms. The floors are of bare earth, but the walls are covered with beautiful rugs, which take the place of pictures.

PIGS IN THE BALKANS

In the living room meals are cooked in iron or copper pots over fires that are fed with logs of oak. From the rafters of the roof vegetables are hung to dry. Underneath the house is a large cellar, where wine and brandy are stored.

The country people make most of their own clothes. During the dark winter evenings, after the one big meal of the day, as they sit round the blazing logs, mother spins wool and the girls embroider the gay aprons they wear. In a corner of the room father weaves the yarn into cloth. At times he makes strong baskets out of willow sticks or carves ornaments out of beech logs.



[Ewing Galloway.

A peasant woman spinning as she goes to market.

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When a woman tramps or rides over the hills to go to market she generally spins woollen yarn as she goes, and the boys who look after the pigs often spend some of their time knitting stockings and shawls.

A few things, such as coffee, matches, sugar, rice, cotton cloth, and bright ornaments or handkerchiefs for the women, cannot be produced at home. These are bought in the market of the nearest town. To this market the farmer takes the things he has to sell in a long, creaking wooden cart drawn by great slow oxen with wide spread horns. Into the big, heavy wagon he puts bundles of spun wool, barrels of plum brandy, piles of pumpkins, pears, tomatoes, cabbages and grapes, cans of clotted cream, some cheeses, ducks and geese, and also a few grunting pigs with their legs tied together to prevent them jumping over the sides of the cart and running away.

“ This little pig went to market,
This little pig stayed at home,”

would not be true in Serbia. Every pig, old or young, goes to market, some of them when they are so small that they have to be carried. In the market they run about, squealing like little terriers and biting one another if they get the chance. Each of them knows its own master's voice, and will follow him when called.

EXERCISES

1. On your map of Europe mark Yugoslavia and the Balkan Peninsula.
2. Make a list of all the things the Serbian peasant makes or grows for himself.
3. What are prunes, pumpkins, clotted cream?

CHAPTER 18

SILKWORMS IN JAPAN

AS we have been talking of the rearing of animals for their wool, hair, or leather, we may as well put into this book the story of two other animal products that are used in the making of clothing—silk and furs. We cannot very well call the people who rear silkworms “herders,” but this is a convenient place in which to learn about them.

Silk is produced in many countries, but one of the chief of them is Japan.¹ The Japanese learnt the arts of silkworm rearing and of spinning and weaving silk from their neighbours, the Chinese, a nation with a very old civilisation (see Book III). Much of the raw silk produced in Japan is used in the factories of Japan itself, but a very large amount is exported to the United States and to France.

Japan is a small country, about as big as Holland and Belgium put together, and is made up of a number of islands. It contains so many mountains that there is not much farm land, and the farms are so small—less than three acres each—that they are more like gardens than farms. There are so many people in Japan that every bit of land that will grow anything must be used. There is little room for animals: all the good land is tilled for food for people. The mountain grass is coarse, and animals do not thrive on it. There are, therefore, few horses to pull carts, cows to give beef or milk, or sheep to give mutton or wool.

The Japanese are fishermen and cultivators. They grow tea to drink, rice and other grain, vegetables and fruit to eat, and mulberry leaves on which to feed silkworms. The mulberry

¹ See map on page 27.

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Silkworms ready to begin spinning their cocoons.

[E.N.A.]

trees are found in the central hilly part of the country and on the banks that divide the rice fields in the lowlands. One acre out of every twelve acres of cultivated land is planted with mulberries, and more than one-third of the people who work on farms rear silkworms.

The silkworm is not a "worm": it is a caterpillar that hatches out from an egg. The eggs are put in shallow trays that are placed in a warm chamber. Each tray is covered with a piece of white paper in which a number of holes have been made. In time a little grub comes out of the egg, wriggles its way through a hole in the paper, and begins to eat.

Each day the silkworms eat several times their own weight of mulberry leaves, and at this time Japanese children are kept busy picking food for them. After a few days the silkworms leave off eating, but not for long. They rest for about one day, burst their old skins, and then begin to eat again just as fast as ever. Four times in their lives do the silkworms change their coats, and after every change they grow a little bigger. At the end of four or five weeks they are about three inches long.

They then climb amongst some twigs or pieces of straw that

SILKWORMS IN JAPAN

have been provided for them, and begin to spin. From a tiny hole in the head of each silkworm comes a thread much finer than that in a spider's web. This is wound round the body to build a kind of little house shaped like an egg and called a cocoon. In four days the work is finished and the thread is then about a quarter of a mile long. Before any use can be made of the silk thread it must be unwound from the cocoons. The cocoons are placed in a small bath of warm water to soften the sticky stuff that binds the thread together. The work of unwinding may be done at home by the women, but in these days much of the silk is unwound from the cocoons in "reeling" mills. Spinning silk thread and weaving silk cloth may also be done either at home or in factories.

The Japanese home is usually of wood and only one storey high. There is a thatched roof, which must be held up by wooden pillars because the walls are only wooden frames with rice-paper windows. The frames can be pushed back to let in fresh air during the daytime. At night and during bad weather wooden shutters are hung up to keep the paper dry. The roof sticks out a long way over the walls to keep out both sun and rain. Houses are built in this way of wood and paper,



A worker unwinding cocoons. [E.N.A.]

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because earthquakes are common in Japan. If such a house falls down no great harm is done, and it is fairly easily put up again. In these days, in the big towns, buildings are made of concrete which will stand earthquake shocks.

The house is divided into rooms, not by walls, but by screens about six feet high that can be moved. In a small house the screens are pulled out at night and the living-room turned into a number of cosy little bedrooms. This is quite easy, for there are no tables or chairs to be moved and no bedsteads to be put up.

The Japanese people sleep on soft mattresses, stuffed with silk, and cover themselves with thick silken quilts. When a man is in bed he rests his head upon a hard round bolster, but a woman has no support for her head. She visits a hairdresser once a week to have her hair daintily dressed, and she does not like disturbing it at night. When she goes to bed, therefore, she rests her neck, not her head, on a small padded stool, so that there is nothing to disturb her many waves and rolls.

The floor is covered, all over, with mats, each about two inches thick, made of rice straw. They are always the same size, six feet by three, and the size of the room is always given by the number of mats it takes to cover the floor. Thus one may speak of a room as a four-mat room, a six-mat room, and so on.

The Japanese lady spends much of her life on this soft mat-covered floor. She walks on it, sits on it, eats on it, and sleeps on it. It is always kept beautifully clean, and no one ever thinks of walking across a room in boots. A visitor to a house knows exactly how many people are at home, because the boots are left in the porch. Many small shops have raised floors so that the buyers can sit on the edge with their feet on the ground, and so not bring a lot of dust and mud inside.

There is no fireplace in a Japanese house. The rooms are

SILKWORMS IN JAPAN



A tea-party in a Japanese house.

[E.N.A.]

warmed by charcoal that is burned in a brazier or pan that is placed in the middle of the floor. As the charcoal gives off no soot, flames, or smoke, there is no need for a chimney. Round the brazier, in the evenings, the members of the family squat on cushions to enjoy a chat, to drink their tea, and to eat their meals.

You cannot romp about or play hide-and-seek in a Japanese house. You might push your hand or your foot through the paper walls and windows or, perhaps, upset the brazier and set the place on fire.

For reasons we have already given, the Japanese eat very little meat. The chief foods are rice and fish; and tea is drunk without milk. Because there are so few sheep, wool is dear and woollen clothing is worn only by the rich. Because there are

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so many silkworms silk is cheap, and even the women who look after them often wear silken gowns.

Cotton, which is now made in many factories, is also cheap and therefore much worn. A man working in the rice fields is often dressed in cotton, but in wet weather he also wears a cape made of rice straw to keep off the rain. On his head is a wide, flat hat of rice straw that protects his neck and shoulders from both rain and sun.

As we have said, the Japanese is a fisherman or a cultivator, or both, but the little silkworm is so important in his life that we can think of him as being, very often, a clever, hard-working rearer of silkworms for the sake of their silk for the making of clothes.

EXERCISES

1. On your map of Asia mark Japan and the Pacific Ocean.
2. What is an earthquake? How do the Japanese build houses to avoid damage from earthquakes?
3. Why is paper so important in Japan? Why do the Japanese have few horses and little or no leather, wool, or butter?
4. In what ways are Japanese houses and furniture different from ours?
5. Give a short account of the life of a silkworm.



A beautiful silver fox.

[E.N.A.]

CHAPTER 19

REARING FOXES IN CANADA

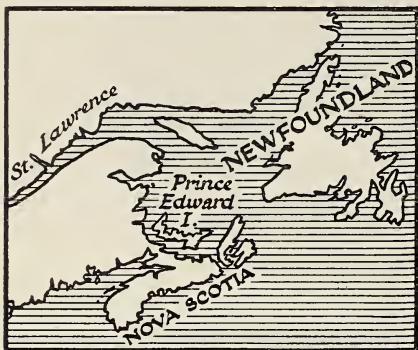
WE have learned that long, long ago, the men of the New Stone Age tamed some of the wild animals and used them to supply themselves with food and clothing. Then, as we have seen, white men learned to keep these tame animals in larger numbers to supply, not themselves, but thousands of other people, with the same kinds of things. In our time they have gone even farther, and now rear wild, not tame, animals for the sake of their furs.

In Book I we read how the lonely Indian trappers catch foxes in the north of Canada. These foxes, sometimes, have amongst their cubs one whose fur is black, with just a little bit of white. Because there are so few of these silver foxes, as they are called, and because their furs are so beautiful, their skins are worth a great deal of money.

Now, some years ago, two clever Scotsmen, who lived upon Prince Edward Island, in the mouth of the river St. Lawrence, had a bright idea. They thought that perhaps it might be

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possible to breed silver foxes in much the same way as we breed chickens and rabbits. They caught a few alive, and put them in big cages on another little island near to where they lived.



Map of Eastern Canada, showing the position of Prince Edward Island.

In a few weeks there was a family of cubs, but very few of them were black, and all but the black ones were killed. After a year or two, however, all the cubs that were born in the cages were born black, and as one skin could be sold for as much as £500 the Scotsmen began to grow rich.

Of course they did not want anyone else to know what they were doing, so they told no one anything about it. Every day they set sail for their fur farm, but they pretended that they were simply going to catch lobsters, of which there are large numbers on the shores of this part of Canada. Then, one very cold winter, the sea between the islands froze over, and one of the foxes ran away across the ice and reached Prince Edward Island. After this the two Scotsmen could not any longer hide their secret, but they still made a lot of money, because dozens of other people bought their foxes and began fur farming for themselves. There are now over 1,500 fur farms in Canada, about 500 of which are in Prince Edward Island.

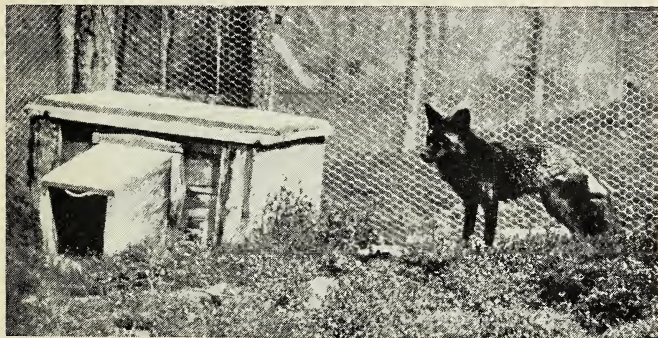
A fox farm is something like a poultry farm. The animals are kept in pens surrounded with strong wire-netting. The pens are sometimes covered in at the top. If this is not done

REARING FOXES IN CANADA

the fences must be at least eight feet high to prevent the foxes from jumping over them. On some farms dogs are kept that have been taught to catch the foxes, if they escape, without hurting them.

The wild fox lives in a burrow that it makes under the ground. Hence, if the farm is on soft ground, the netting that forms the fence has to be sunk three or four feet below the surface, or the fox will burrow underneath and escape. To make him feel at home the farmer gives each of his foxes a small barrel buried in a box of sawdust. This is the fox's bedroom, and the sawdust keeps it warm in the cold winter and cool in the hot summer. The fox also has a kennel, something like a fowl-house, where he can romp with other foxes and keep dry when it rains outside. On a large fox farm there are dozens of these kennels with narrow ways in between. Round the whole farm there is another fence, ten or twelve feet high.

One of the pens is kept for a hospital for sick foxes. The foxes are still wild, and do not like being shut up. Very often they sicken and die, though everything is done to keep them



A fox in his pen, beside his kennel.

[Courtesy, C.P.R.]

THE HERDERS



A fox farm in winter.

[Courtesy, Canadian Government.]

happy and healthy. It is not always easy to tell when they are ill. If a fox sees anyone watching him when he is not feeling well he scampers about and pretends there is nothing the matter with him. For this reason the foxes are watched by someone whom they cannot see. On most big farms there is a tower where a man can sit to watch the foxes running about. If he thinks one of them is looking ill and keeping to itself, he has it taken away, put in the hospital, and sends for the doctor.

In a wild state a fox kills its own food and eats it while it is still warm. It cannot do this in a cage, so the farmer is careful to give his animals no meat that is not quite fresh. When he kills a bullock he gives the heart, the liver, and some other parts of the beast to the foxes. To keep the meat fit to eat there is, on the fur farm, a meat house that is cooled in summer.

The foxes are also given a certain amount of grain, biscuits, and fish. Prince Edward Island is a very fertile island, where

REARING FOXES IN CANADA

good crops of grain and roots are grown, and where numbers of cattle are reared. Hence the farmer who owns a fur farm often feeds his foxes upon the things he produces himself. From the grain he makes the flour for the biscuits. Fish and cod-liver oil are, as we learned in Book I, easily obtained in large amounts from the seas between Newfoundland and Prince Edward Island.

The foxes, when they feed, cannot be said to have very nice table manners. Their food is mixed up and put on a tin plate. When feeding time comes the keeper goes to the pens, where the hungry, barking foxes are waiting for their meal. He opens a door in the pen and throws in a plateful of the minced meat.



[Courtesy, Canadian Government.]

Feeding time for the foxes.

THE HERDERS

Like a flash of lightning four or five young foxes make a dash for it. The winner generally captures the lot.

With his face almost smothered in meat he scampers about the pen trying to get out of the way of the others, who chase him round and round, snapping up the pieces that he drops and trying to bite off the bits that stick out between his sharp and evil-looking teeth.

Canada is well suited for fur farming, because the winters are cold and the animals have to grow thick furs to keep themselves warm. Other countries, however, have taken up this kind of work, and now there are fox farms in the United States of America, in Norway, and even in the British Isles. Other animals, too, besides foxes are now reared in this way. Martens, musk rats, and beavers are also farmed. Some day, perhaps, the number of skins produced on fur farms will be so great that there will be no need for the lonely trapper and his rather cruel ways of obtaining furs.

And now we have finished our story of the herders. It is easy to see that they lead much more comfortable lives than the hunters. Moreover, the modern herdsmen lead still more comfortable lives because they share in the benefits that a modern civilisation has brought to all: speedy mechanical transport, machinery, wireless, and the help of science. This civilisation, however, became possible only because, hundreds of years ago, the people of the New Stone Age found out a better way of living. What that way was we shall see in Book III.

EXERCISES

1. On your map of North America mark Canada, Prince Edward Island, the river St. Lawrence, Newfoundland.
2. Does the fur farmer try to make the foxes feel at home on the farm?
3. Why are fur-bearing animals found in cold countries?
4. Why is it better to farm foxes than to trap them?
5. Read again, in Book I, the story of the trapper.

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